2021

Effects of exposure to video games on sexual harassment

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EFFECTS OF EXPOSURE TO VIDEO GAMES ON SEXUAL HARASSMENT

An Abstract of a Thesis

Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Chelsea Renee Washburn

University of Northern Iowa

December 2021

ABSTRACT

Previous research has suggested a positive relationship between video game play and negative outcomes, with the APA going so far as to publish a press release on the negative effects of violent media (APA, 2005, 2015a, 2015b; Anderson et al., 2010; Kepes et al., 2017). However, critics argue that these results are marred by publication bias and are overstated (Ferguson, 2007; Ferguson et al., 2020; Hilgard et al., 2017). The current study examined the relationship between the amount of time participants played video games and engaged in sexual and general harassment, and examined whether exposure to video game violence, hostile sexism, and benevolent sexism moderated this relationship, with the amount of time participants spend chatting online as a covariate. When participants were exposed to high levels of video game violence, but had low or average levels of hostile sexism, the more hours they played, the less sexual harassment they reported (self-rated perpetration). When participants had high levels of exposure to video game violence, regardless of their level of benevolent sexism, the more hours they played, the less sexual harassment they reported. When participants reported less exposure to video game violence, regardless of how much hostile or benevolent sexism they reported, the more hours they played, the greater general harassment they reported. Future research should focus on individual differences, especially since the relationship between violent video game play and negative outcomes are not as clear as they once seemed.

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This Study by: Chelsea Washburn

Entitled: Effects of Exposure to Video Games on Sexual Harassment

has been approved as meeting the thesis requirement for the

Degree of Master of Arts

Date	Dr. Nicholas Schwab, Chair, Thesis Committee
Date	Dr. Helen Harton, Thesis Committee Member
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ACKNOWLEDGEMENTS

I would like to thank my thesis chair and advisor, Dr. Nicholas Schwab, for his patience and support of my research. I would also like to thank Dr. Helen Harton and Dr. Dilbur Arsiwalla for their help simplifying my study, which made it possible to more easily complete my thesis in an appropriate amount of time.

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CHAPTER #1

LITERATURE REVIEW

Introduction

Status of Gaming

Video games are very popular in the United States, with gamers making up 66% of the population (Clement, 2021a) and 75% of households containing at least one gamer (Entertainment Software Association, 2020). A PEW research poll reported that 62% of respondents played puzzle games, whereas 42% played shooter games (Brown, 2017). Over 85% of video games contain some form of violence (APA, 2020).

Violent video games, unlike violent movies or television, place the player in the position of the violent actor. The player vicariously commits violent acts through the video game rather than watching the violence occur on television. Online violent video game play offers direct contact with other players, and also offers players anonymity, which some players use to harass others.

Some meta-analyses (i.e., Anderson et al., 2010; Kepes et al., 2017) have concluded that there is strong evidence for negative effects of violent video game play, and that violent video game play should be a major societal concern. Other meta-analyses have found publication bias in violent video game research, and concluded that the effects of violent video game play exist but are overstated (Hilgard et al., 2017). The main disagreement among most researchers does not seem to be whether violent video games have negative effects on behavior, but to what extent these behaviors warrant concern.

Overall, playing violent videogames increases aggression and reduces prosocial behavior (Anderson et al., 2010), whereas playing prosocial videogames achieves the opposite effect (Greitemeyer & Mügge, 2014). The relationship between violent video game play and negative outcomes is stronger for those with higher trait aggression and for men (Anderson & Dill, 2000). People with high trait aggression may have a difficult time assessing potential threats and perceive threats when there are none.

Although aggression as a result of violent video game play is a common cause for concern, it is not the only potential problem associated with violent video games and gamer culture. Online video games offer an easy environment for cyberbullying (verbal or written aggression, and griefing) to thrive. This ability to communicate helps players communicate during gameplay, but it is also a medium for harassment. The negative effects of video games may be more pronounced when players are given the opportunity to harass others, especially when combined with individual traits such as sexism.

Cyberbullying, in turn, suggests a deeper relationship with societal norms for real life and digital media. Video games, as part of the larger category of digital media, can promote social norms and may socialize players, especially children, to think and act in normative ways, transferring lessons people learn from media into their everyday lives (Dugan, 2013). Media encourages viewing behaviors (i.e., how often) through viewer/player interaction (Dugan, 2013). These viewing behaviors remain consistent as people age and engage with more mature (i.e., aggressive, violent) shows, video games, and other media.

Video games have evolved over the years. Before the onset of online gaming, arcades provided an avenue for players to interact and form gaming culture (Skolnik & Conway, 2019). Promoted norms include traditional masculinity, such as the perception of men as sportsmen, competitors, superior physically and skill-wise to all others, aggressive, virile, and the only true gamers (Skolnik & Conway, 2019; Witkowski, 2013). These norms foster and promote a mindset of sexism and harassment in a male-dominated field, while bullying provides an easy opportunity for people to promote cultural norms surrounding homosexuality and other non-traditional sexual minorities (i.e., not heteronormative; Pascoe, 2013). Bullying, homophobia, sexism, and racism occur in video games and are present in gamer culture (Ballard & Welch, 2015). Anecdotal evidence for this problem includes threats of sexual assault and murder, especially towards women (Fletcher, 2012; O'Leary, 2012).

Ballard and Welch (2015) corroborated these anecdotal findings, observing that 52% of their participants reported being cyber-bullied. Their participants included men (72.8%), women (23.8%), and transgender/other (0.03%) people 18 years of age or older, most of whom were White (83%) and heterosexual (81%). Thirty-five percent of participants admitted to cyber-bullying others. Participants were often called names, sexually harassed, threatened, and excluded from play. Although impossible to determine true motives, Ballard and Welch (2015) asked players to report their perceived motive behind the cyber-bullying they experienced. Most participants believed they were bullied due to their rank within the game (i.e., who the game rates as a better player;

39.7%). Other perceived motives (gender, age, race, sexual orientation, and avatar's gender) made up much smaller percentages.

Perceived motive may change how the victim views harassment. However, perceived motive does not stop the harassment. Given the prevalence of cyber-bulling in gaming, the current study examines harassment as a form of aggression through the lens of the General Aggression Model.

The General Aggression Model

In the General Aggression Model (GAM; Alan et al., 2018; DeWall et al., 2011), aggression refers to the intent to cause harm to someone who does not want to be harmed. In the context of video games, many factors could contribute to the presence of aggression.

There are three stages to the GAM. The three phases repeat based on the outcome of each encounter. The first phase, inputs, contains the influence of personal and situational contexts. In gaming, this would include the type of game played, current events, and player disposition (Alan et al., 2018). The second phase, routes, are how personal and situational factors impact affect and arousal which affect a person's current internal state (Alan et al., 2018). The third phase (outcomes) of the GAM predicts that people will go through an appraisal stage followed by a decision-making stage, where a person appraises a situation then determines a course of action, either thoughtful or impulsive. While this action could result in physical violence, it could also manifest in verbal aggression (Alan et al., 2018).

Within the third phase, decision-making begins with an immediate and automatic appraisal of the situation, which depends on the number of resources available (Alan et al., 2018, pp. 10-11). In gaming, these resources could include time, number of games played, game skill, and game difficulty. If a player recognizes their available resources are sufficient then they can engage in a thoughtful reaction (reappraisal). However, if a player feels these resources are lacking, they would then engage in an impulsive action, like harass another player.

Aggression is observable through action (proactive aggression) and inaction (passive aggression) and it not defined by feelings alone (Alan et al., 2018). Within the GAM, there are two types of aggression: proactive and reactive. Proactive aggression is planned and is usually goal-oriented, whereas reactive aggression is in response to provocation (Alan et al., 2018). Proactive and reactive aggression are highly related, and both can be a source for verbal harassment. Within video games, players may plan to "grief" other players, effectively harassing and making a coordinated effort to eliminate them and gain their loot (proactive aggression). For reactive aggression, a player may call another person names when they lose a match.

The GAM (Alan et al., 2018) also mentions the use of indirect and direct aggression. In indirect aggression, the victim is not present to hear or witness what is said. With direct aggression, the victim is present. In gaming, this would manifest as both verbal and physical aggression towards other players and player avatars, respectively. The current study examines direct aggression through verbal comments directed at another player (See Appendix F).

People are less likely to control aggressive impulses when mentally fatigued (DeWall et al., 2011). In addition, people who play videogames more frequently also tend to play them for extended periods of time (Espinosa & Clemente, 2013). Similarly, a person's repeated exposure to violence can desensitize them to committing aggressive acts (Gentile et al., 2016). Competitive games, such as online games, tend to increase hostility in players (Ewell, 2016). A person's misattribution of arousal could affect their decision-making during the decision-making stage of the GAM, and how they interact with other people. Whereas, misattribution of arousal is when someone goes through an arousing event then attributes that arousal to a subsequent event, also known as Excitation Transfer Theory (Zillmann et al., 1974), of which the GAM utilizes elements (Allen & Anderson, 2017). Consequences of this hostility include cyberbullying and threats, especially toward perceived out-group members such as women and minorities.

Within the current study, as theorized through the GAM, aggression is characterized by sexual harassment and general harassment. The act of this harassment would constitute the second stage of the GAM: the decision-making stage. The current study did not assess participant motivations, but there are several possibilities. During the first stage: the appraisal stage, perpetrators of harassment may develop frustration or aggression towards another player. If someone cannot reappraise the aggression they feel, they may be more likely to act aggressively, perhaps by threatening or harassing others. Even in a non-violent game, players may become overly frustrated and displace their aggression on surrounding objects or people.

Women in Video Games

Poor female representation is prevalent in the video game industry and is not limited to online play. In 2006, only 38% of gamers were female, compared to 46% of gamers in 2019 (Clement, 2021b). However, the percentage of female gamers differs greatly when games are analyzed by genre. For example, of all the people in Yee's (2017) sample (mostly people from North America and the Western European Union) who played "Match Three" and "Family/Farm Simulator" games, 69% were women. For first-person shooters, however, only 7% of players were women. For MMOs (Massively Multiplayer Online; high fantasy), 36% of players were women, but for MMOs (science-fiction), only 16% of players were female. The lowest percentage of female players, by genre, was for sports games, of which only 2% were women. As Yee also points out, some of these percentages are greatly affected by outliers within the genre. For example, Yee notes that 26% of "Western RPGs (Role Playing Games)" players are women. However, if you look at one particular game within that genre, *Dragon Age: Inquisition* (BioWare, 2014), 48% of *Dragon Age: Inquisition* players are women, which is almost double the average percentage of Western RPG players.

There is a belief within gaming communities that gamers are male. Some developers assume very few core (real, true) gamers are women (Yee, 2017). This mindset is showcased by the fact that out of all games presented at E3 (a prominent gaming conference) for the years 2015 through 2019, less than 10% of games featured female protagonists, compared to about 30% of games which featured male protagonists. The percentage of games shown at E3 with multiple character options grew from 46% in

2015 to 66% in 2019. Another example of this gender divide are the proportion of female presenters at E3: a mere 21% (Sarkeesian & Petit, 2019). For example, Anita Sarkeesian is a prominent media critic and one of several women targeted in the #GamerGate "scandal", in which prominent women critics were harassed over social media for critiquing the portrayal of women in video games.

There are fewer women highlighted in video games, but there are also issues with portrayals of female characters. Videogames are criticized for their portrayal of oversexualized female characters relative to the stereotypical male protagonists, who are generally clothed appropriately for combat. Female characters are often given very little to wear, along with exaggerated breasts and very youthful, feminine clothing (i.e., schoolgirl outfits), all while still promoting violence and aggression. Examples of these games are *Street Fighter* (Capcom, 1987), *Mortal Kombat* (Midway Games, 1992), and *Tomb Raider* (Core Design, 1996). Aggressive games and their portrayals of women can be in both violent and non-violent games. Playing sexualized female characters can also relate to harassment.

Women often play alone and anonymously and avoid conversing verbally to keep their feminine identity a secret and avoid harassment (McLean & Griffiths, 2018). McLean and Griffiths (2018) analyzed online forum comments from 271 female gamers to provide evidence for hiding the gamers' feminine identity, with a total of 1043 posts analyzed. Out of 271 women, when chatting online, five denied being female, 16 let male players believe they were a teenage boy, and 75 said they remained silent. When chatting

online, female voices receive three times more negative comments than male voices or no voice (Kuznekoff & Rose, 2013).

Harassment in gaming has also extended beyond online gameplay to include harassment campaigns on social media. One such instance was #GamerGate, where female players and developers were harassed over Twitter and other social media platforms. These women were attacked, purportedly because they challenged masculine gamer culture (McInroy & Mishna, 2017), although not all of those involved in #GamerGate were stereotypical White (non-Hispanic), heterosexual men (Ferguson & Glasgow, 2020). This incident suggests the existence of pro-masculine ideology in the gaming community at the expense of female players.

Sexual Harassment

Previous research also notes that social dominance orientation and hostile sexism predict sexual harassment in online games (Tang & Fox, 2016). Playing a game with sexualized female characters has been shown to prompt sexual harassment (Burnay et al., 2019). There is also evidence that playing a sexualized female character can lead to greater rape-myth acceptance and greater tolerance of sexual harassment in both boys and girls (Driesmans, et al., 2014), which contributes to players perceiving sexual harassment as part of gamer culture. Sexual harassment keeps some women out of gaming communities and creates a hostile game environment (Tang et al., 2019).

In this context, sexual harassment refers to insults including sexist comments, unsolicited affects, and rape jokes, with general harassment including swearing and general insults regarding other plays' play (Tang & Fox, 2016). General harassment is

conceptualized as cursing or insulting other players, whereas sexual harassment concerns whether participants make sexist comments, give unwanted sexual attention, or make rape jokes/threats.

General Harassment

Many gamers think their aggressive comments are part of gaming culture – and not harassment. The anonymity of online play contributes to the prevalence of harassment in gaming (McInroy & Mishna, 2017). Particularly, players who enjoy this anonymity tend to enjoy "griefing" others. Griefers harass, stalk, and loot other players, and diminish the gaming experience of their victims (Chen et al., 2009).

Games can be online, offline, or both, even though in-game harassment can only happen online unless multiple players are in the same room together. Both online and offline game use can include violent play and encourage aggressive behavior. McInroy and Mishna reported that their participants claimed masculine norms were behind much of their aggressive behavior. In addition, Morales et al. (2016) found that harassers, whether male or female, were higher in socially masculine traits. This bullying facilitates their social hierarchy. Game rank often works as an indicator of this hierarchy (Morales, et al., 2016).

Masculine Norms and their Relation to Sexism and Harassment

Masculine norms and sexism could also contribute to harassment. While women are not the only targets of harassment, the pervasiveness of sexual violence targeted at women cannot be ignored. Endorsement of traditional masculine ideology is strongly and positively associated with exposure to violent videogames and aggression (Thomas &

Levant, 2012), as well as rape myth acceptance (Beck et al., 2012), sexual objectification, and inappropriate behavior toward women in social situations (Yao et al., 2010).

Masculine norms include both hostile (i.e., that women are inferior) and benevolent representations of women (i.e., that women must be protected). It follows that an endorsement of traditional masculine norms (i.e., the dehumanization, sexualization, and commodification of women or portrayal of women as innocent or beings to be protected) could moderate the effects of violent videogame exposure and aggression (Thomas & Levant, 2012).

There is evidence that online sexist behavior in social media affects offline sexism (Fox et al., 2015); therefore, the reverse may also be true. Even in offline games, aggressive individuals tend to choose more negative and antisocial game narratives (Taxy, 2018). Aggressive players choose more negative game narratives, ergo, more sexist players may choose more sexist options, further cementing their feelings on women and manifesting those feelings when given the opportunity via online chat.

Sexism as a Moderator

Taxy (2018) found no significant relationship between hours played and aggression scores. This suggests there are other factors besides simply playing video games that affect aggression. Therefore, the uncertain relationship between hours played and harassment may be explained by moderating variables. Sexism is not usually explored as a moderator that could affect how the amount of time spent gaming affects harassment. Sexism is a part of gaming culture, from its portrayal of women to its male-dominated games (Sarkeesian & Petit, 2019).

Current Study

Most research on the subject of harassment in gaming focuses on men as perpetrators, especially perpetrators of sexual harassment, whereas women and other minorities tend to be the victims (Ballard & Welch, 2015). There are many potential causes of this behavior, but most notably, it seems that adhering to masculine norms facilitates much of this harassment behavior (Morales et al., 2016). On average, boys also tend to play for longer amounts of time than girls, and more boys than girls consider gaming their favorite activity (Common Sense, 2015). Therefore, I recruited only male participants to better understand how video game play affects men, as men are usually the perpetrators of harassment.

In general, high levels of game play for boys are positively related to bullying perpetration (Brooks et al., 2016). High levels of gameplay are also associated with verbal and physical altercations (Gentile et al., 2004). However, Taxy (2018) found no significant relationship between hours played and aggression scores. Therefore, there is both evidence for and against levels of gameplay having a significant positive relationship to aggression.

Aggression manifests in many ways, including verbal aggression and hostility. Consequences of this hostility include cyberbullying and threats, especially toward perceived out-group members such as women and minorities. These hostile and aggressive actions constitute harassment. Previous research has generally measured the short-term effects of video game violence after game play rather than reported harassment within game (Anderson et al., 2010). While harassment online can only

happen in the online form, it is possible that the effects of offline video game play would also affect online play, as game involvement and weekly game play predict general harassment (Tang & Fox, 2016).

Harassment in video games is conceptualized as sexual harassment and general harassment. Sexual harassment concerns whether participants make sexist comments, give unwanted sexual attention, or make rape jokes/threats (Tang & Fox, 2016). Separating the types of harassment provides greater insight into the different relationships they have with gameplay and exposure to video game violence. Here, there is distinction between harassment of a sexual nature and general bullying comments. Game involvement and weekly game play have been shown to predict general harassment (Tang & Fox, 2016). Harassment is generally perpetrated by men in both online and offline environments, whereas women are overrepresented as victims (Henry & Powell, 2016). General harassment includes swearing and general insults regarding other plays' play (Tang & Fox, 2016).

The novelty of the current study is the use of sexual and general harassment as a form of aggression as it relates to video game play. The current study also diverges from previous research by exploring possible moderators on the effect of length of game play on harassment. For example, Tang and Fox (2016) found that game involvement and weekly gameplay predicted general harassment, however Taxy (2018) did not find a significant relationship between hours played and aggression scores This discrepancy could be addressed by exploring potential moderators of game play such as exposure to violent video games.

The current study explores three moderators. The first and most important is exposure to video game violence. The relationship between violent video game play and negative outcomes is stronger for those with higher trait aggression and for men (Anderson & Dill, 2000). People are less likely to control aggressive impulses when mentally fatigued (DeWall et al., 2011) and competitive games, such as online games, tend to increase hostility in players (Ewell, 2016). Consequences of this hostility include cyberbullying and threats, and at least 85% of video games include at least some violence. Given the importance of violent video game play to researchers and the public, it is included as a moderating variable. However, unlike previous research, exposure to video game violence is treated as a moderating relational factor in the overall model, rather than a causal factor for harassment.

The second and third moderators are hostile and benevolent sexism. Previous research notes that hostile sexism predicts sexual harassment in online games (Tang & Fox, 2016). Traditional masculine norms include both hostile (i.e., that women are inferior) and benevolent representations of women (i.e., that women must be protected). Therefore, the endorsement of these norms shown through adherence to hostile and/or benevolent sexist attitudes could moderate the effects of violent videogame exposure and aggression (Thomas & Levant, 2012). The distinction between the hostile and benevolent sexism is the difference in hostility and aggression. The current study includes sexism as a moderator because lack of sexism could provide a buffer to harassment perpetration regardless of hours played.

Lastly, it is important to note how the current study addressed the medium of harassment. Games can be online, offline, or both (the current study assesses all three), even though in-game harassment can only happen online unless multiple players are in the same room together. Hence, the importance of including online chatting as a covariate in the current study.

The current study examined the relationship between the amount of time participants played video games (in general) and sexual and general harassment within games, and examined whether exposure to video game violence, hostile sexism, and benevolent sexism moderated this relationship. The amount of time participants spent chatting online was included as a covariate. Participants were limited to men because of their proclivity to commit harassment and to obtain greater statistical power. The current study was developed to ascertain whether or not this proclivity for harassment would be affected by exposure to video game violence (exposure) and sexist attitudes. However, questions about harassment within the current study to not specify the victim's gender. Participants answered demographic questions last to avoid social desirability. Participants were told the study concerned how video game play relates to personality.

Hypotheses

Hypothesis 1

Time spent playing video games (online offline, and composite; See Appendix C) will be positively associated with likelihood to commit sexual and general harassment (See Appendix F).

Hypothesis 2

The relationship between time spent playing video games and sexual harassment will be moderated by exposure to video game violence and sexist attitudes, in that exposure and sexist attitudes will positively relate to greater reported sexual harassment.

Hypothesis 3

The relationship between time spent playing video games and general harassment will be moderated by exposure to video game violence and sexist attitudes, in that exposure and sexist attitudes will positively relate to greater reported general harassment.

CHAPTER #2

METHOD

Design

The current study is correlational examining the association between time spent playing video games (offline, online, total hours per week) and sexual and general harassment as outcome variables. Exposure to video game violence and hostile and benevolent sexism were analyzed as moderators. I examined time spent chatting with other players online as a covariate.

Power Analysis

To determine the appropriate number of participants necessary for my sample, I used the effects observed by Tang and Fox (2016) as a guide and G*Power (Faul et al., 2009) for the calculation. For sexual harassment, Tang and Fox found an effect size of f^2 = .10 (sr^2 = .086), for general harassment, the effect size was f^2 = .14 (sr^2 = .116). To begin, I inputted the following into G*Power (Faul et al., 2009). To compute the sample size I needed, I averaged these two f^2 values. To achieve power of .90 (f^2 = .12; α = .05; total number of tested predictors = 1 (hours played); total number of predictors = 6 (exposure to video game violence, sexism, online chatting, online, offline, and composite hours played; two tailed), I would have only needed 90 participants. Including interactions for 9 total predictors, I would have needed 90 participants as well. Tang and Fox used a snowball sample to recruit participants, and a sample size of 90 seemed too small based on my power analysis. Since the number seemed low given my number of predictors, I ran the tests again using effect sizes from other studies.

I compiled effect sizes from two other studies regarding video game play and sexism from which I could compute f^2. However, the resulting effect size was the same when using Bègue et al. (2017). Therefore, I utilized another study with an mTurk sample (Fox & Potocki, 2016). They reported on an mTurk study with 351 participants with a model similar to mine, only with two moderators. In addition, Fox and Potocki explored rape-myth acceptance instead of harassment. Otherwise, Fox and Potocki also used video game usage as a predictor variable. Fox and Potocki reported an average β of .156, which I squared to obtain a value of $\beta^2 = .02$. Fox and Potocki did not report further data beyond β^2 and *p*-values, so the value $\beta^2 = .02$ served as my reference β^2 when computing my effect size of f^2 in G*Power (Faul et al., 2009).

My study had three tested predictors (online, offline, and composite play) and seven total predictors (online play, offline play, composite play, exposure to video game violence, hostile sexism, benevolent sexism, and online chatting). My four moderators counted as predictors as well for the purpose of computing power in G*Power (Faul et al., 2009). By using $f^2 = .02$, $\alpha = .05$, with three tested predictors and seven total predictors at .80 power within the G*Power (Faul et al., 2009) software, I required a sample size of 550 to achieve a significant effect size. Including all interactions with 9 total predictors, the sample size was still 550. I oversampled beyond 550 to account for data loss and improper responses. The current study was not preregistered.

Participants

I initially recruited 710 male participants from Amazon's Mechanical Turk (mTurk), of which 600 participants completed responses. Despite receiving 600

responses, not all participants were retained for all analyses. Only U.S. residents over the age of 18 were retained for final analysis. Participants reporting no online play (n = 237) were regarded as not having an opportunity to harass other players online and hence excluded from analyses regarding online gaming harassment. The following descriptive statistics include only participants with at least one hour of online play per week who passed the attention check. Of those participants still included in the data set, only about 200 to 250 were used for each analysis, depending on the questions skipped, even when using pairwise deletion to retain responses.

Within Amazon's mTurk, workers found the study link on a list of available studies. My study description read, "I am looking for participants to answer questions about themselves and what type of video games (if any) they play in order to better understand the gaming community and non-gamers; however, some of these questions may cause distress." Mturk workers received $0.50 for their participation.

White/Caucasian participants comprised most of the sample (71.3%), followed by Black/African American participants (10.0%), Asian participants (10.0%), and Hispanic/Latino participants (9.2%).

Participants' preference for video game violence averaged 5.77 (SE = 0.13) on a scale from 1 (*prefer no violence at all*) to 10 (*prefer very violent games*). Participants saw themselves as gamers with an average of 6.84 (SE = 0.16) points on a scale from 1 (*not a gamer at all*) to 10 (*an avid gamer*). Examples of what participants considered nonviolent games were sports games, Mario (Nintendo, 1985), Pokémon (Nintendo, 1996), Minecraft (Mojang, 2011), and RuneScape (Jagex, 2001). Examples of what participants

considered more violent games were Call of Duty (Activision, 2003), Halo (Xbox Game Studios, 2001), and World of Warcraft (Blizzard Entertainment, 2004). Some participants considered sports games slightly violent, while others claimed they were not violent at all depending on the sport (i.e., golf vs. football).

Procedure

After clicking on the survey link, participants read the consent form (See Appendix A) and agreed to participate before continuing. Participants could exit the survey at any time. If they chose not to complete the survey, they were redirected to the end of the survey. After giving consent, participants answered how many hours per week they played video games (composite), how many hours per week they played offline, and how many hours they played online. They were allowed to put in any number of hours up to the total number of hours that exist in a week. Next, participants answered how often they chatted with other players (voice and/or type chat) on a Likert scale from 1 *(never)* to 5 *(always).* Then, participants answered the exposure to video game violence questionnaire (Anderson & Dill, 2000), followed by the attention check. Participants then answered the Ambivalent Sexism Inventory in the original order (Glick & Fiske, 1996). Next, participants answered the harassment scales (Tang & Fox, 2016), starting with questions on general harassment followed by questions on sexual harassment). Lastly, participants answered demographic questions.

As part of the demographic questions, participants were asked their age, sex, race/ethnicity, their game preferences, whether they play non-violent or violent video games, and their adherence to the gamer label (See Appendix C). These questions were

used to provide a better description of my sample. After responding to the survey, participants saw the debriefing statement (See Appendix B) with a review of my study and contact information.

Measures

Video Game Reporting

Time spent playing video games is generally measured in hours played per week (Anderson & Dill, 2000; Bègue et al., 2017; Breuer et al., 2015; Burnay et al., 2019; See Appendix C). However, I also wanted to differentiate between online and offline play. I asked participants "How many hours per week, if any, do you generally play video games?" and "How many hours per week, if any, do you generally play video games offline (not on the internet)?" Given that video games cover a wide range of game types, I also added the question "How many hours per week, if any, do you generally play MMOs or other video games online?" By including this option, I was able to identify participants with greater opportunity to commit online sexual harassment in gaming relative to those participants playing exclusively offline. These questions were followed by, "How often do you chat with other players when playing video games online?" on a scale from 1 (*Never*) to 5 (*Always*).

I computed analyses for hours played online, hours played offline, and hours played composite (offline and online play). However, only hours played (composite) is reported as an independent variable in the main body of the text. Analyses for hours played offline and hours played online can be found in Appendices I and J, respectively.

Ambivalent Sexism Inventory

This 22-item inventory (Glick & Fiske, 1996; See Appendix D) assesses both hostile and benevolent sexism. Participants answered questions like "In a disaster, women ought not necessarily to be rescued before men." for benevolent sexism on a Likert scale from 0 *(strongly disagree)* to 5 *(strongly agree).* For hostile sexism, participants answered questions like "Women are too easily offended." on the same Likert scale. Glick and Fiske reported high alpha coefficients for the total scale (α = .87), and for the hostile sexism (α = .88) and benevolent sexism (α = .79) subscales. Reliability was high also high in the present study for the total sexism scale (α = .912) and each subscale: hostile (α = .934) and benevolent (α = .892) sexism. When developing the inventory, Glick and Fiske included an initial pool of 140 items, with six of those being obviously correct or incorrect validity statements to ensure participants attended to the questionnaire. They reported that hostile sexism included dominant paternalism, competitive gender differentiation, and heterosexual hostility. Benevolent sexism included protective paternalism. These categories were described by Glick and Fiske reported as hostile and benevolent sexism. Glick and Fiske also compared the Ambivalent Sexism Inventory to a gendered version of the Recognition of Discrimination (Katz & Hass, 1988) for discriminant validity, for validation across a total of three studies (Kinder & Sears, 1981; McConahay, 1986).

Exposure to Video Game Violence

Exposure to video game violence was measured by the Video Game Questionnaire (Anderson & Dill, 2000; See Appendix E). Participants named their five

favorite video games (if any; some reported less than five) and rated each game separately on violent content and graphics, as well as how often they played each game. Following Anderson and Dill (2000), participants scored each of their games for violent content and graphics and reported how often they played each game based on a Likert scale from 1 to 7. Participants were asked to report on the five games they played most. Anderson and Dill asked participants to report how often participants played their games in recent months, during 11th and 12th grades, 9th and 10th grades, and 7th and 8th grades. I only asked participants how often they played their favorite games in recent months. Given the variety of my participants' ages, earlier levels of gameplay would not be relevant for every participant. An average score for each participant was created from the five game scores (or less, depending on how many games participants listed) for an overall score of video game violence exposure. Violence exposure was computed for each of their top five games by adding their ratings for violence and gore then multiplying that number by their how-often rating. These scores were then averaged across all five games for one total exposure to video game violence score (Anderson & Dill, 2000, p. 778). Reliability was calculated across reported games treating the computed violence scores for individual games as "items". The reliability in video game ratings was adequate (α = .766), comparable to Anderson and Dill's previous use of the measure (α = .86). Anderson and Dill (2000) described no validity assessments.

Harassment Scales

Sexual and general harassment were measured using the scale created by Tang and Fox (2016; See Appendix F), specifically developed to measure video game

harassment behavior. Tang and Fox asked participants to base their responses on their experiences in one of their selected games. I modified the scale to be used for any type of game rather than just the one Tang and Fox studied. I also added novel text to introduce the questions (See Appendix F).

Within Tang and Fox's (2016) study, sexual harassment significantly and positively correlated with video game play (r = .14), social dominance orientation (r = .40), hostile (r = .36) and benevolent (r = .11) sexism, and general harassment (r = .58). For the sexual harassment subscale, participants answered five questions like, "How often do you make sexist comments or insults?" on a scale of 1 *(Never)* to 5 *(Always)*. The reliability for sexual harassment was high (α = .85), comparable to Tang and Fox's previous use of the measure (α = .83).

General harassment was significantly and positively correlated with video game play (r = .23), involvement in the video game community (r = .13), social dominance orientation (r = .32), and hostile (r = .36) and benevolent (r = .18) sexism. For the general harassment subscale, participants answered five questions like, "How often do you say curse or swear words to another player?" on a scale of 1 *(Never)* to 5 *(Always)*. The reliability for general harassment was high (α = .879), comparable to Tang and Fox's previous use of the measure (α = .87). Tang and Fox (2016) described no validity assessments

CHAPTER #3

RESULTS

Data Cleaning

The study was active from September 1, 2019 to September 23, 2019. Seven hundred ten participants initiated the study but only 600 participants completed all measures. One hundred eighty-nine additional participants were removed for the following: response times exceeding one hour or less than one minute (n = 1), not a US citizen (n = 1), an invalid age of 3 (n =1), not reporting as male (n = 7), having an IP address outside the US (n = 1), failing the attention check (n = 151), being multivariate outliers (Mahalanobis distance greater than 22.458; n = 17), and being outliers based on z-scores of +/-3.29 (n = 10). These outliers appeared to be random and otherwise without pattern. Five of the ten z-score outliers belonged to the sexual harassment variable, but that still makes up a very small percentage of the overall results. Multivariate outliers also appeared to be without pattern. All of my variables differed from normality and skewed right. I formulated my attention check (See Appendix G) to blend in with the rest of the questionnaire on video games, and given the number of participants who did not pass, it may have been too well hidden. After deleting the above data, using listwise deletion would have resulted in losing 11.7% of my data, so all analyses used pairwise deletion. This resulted in a final sample of 411 male participants for the full analysis. However, only about 200 to 250 participants were used for each analysis due to skipped questions. If participants did not respond to one or more parts of the questionnaire, they were not included for those analyses.

All variance inflation statistics were between one and seven, suggesting a lack of multicollinearity. There were some intercorrelations above .80 among a couple different dependent variables (See Appendix H), but this was likely due to the distinction I wanted to make between offline, online, and a composite score of hours spent playing video games. Therefore, it should be noted that these variables are highly related, but not enough to increase the variance inflation statistic above seven.

The last important point about these data relates to normality (and therefore, heteroskedasticity). The data for all individual variables often differed severely from normality, and were skewed right. Participants tended to play relatively few hours per week, with only a minority of participants playing more than 20 hours per week (n = 23). Participant scores on exposure to video game violence (exposure), scores on the Ambivalent Sexism Inventory (Glick & Fiske, 1996), time spent chatting online, and hours spent playing video games were all somewhat normal with a moderate skew right. However, all of these variables did violate the Kolmogorov-Smirnov statistical test of normality. This suggests that most participants were not heavily exposed to video game violence, did not report high amounts of sexism, did not spend much time chatting online, and did not spend much time playing video games. Furthermore, offline play, online play, general harassment, and sexual harassment were all severely skewed to the right and violated the Kolmogorov-Smirnov statistic.

Rather than transform my data, to address the issue of normality, I utilized robust statistical tests (Field & Wilcox, 2017) in my regression and moderation models. The general linear model is not as robust to assumption violations as researchers previously

thought (Field & Wilcox, 2017). Non-normality and heteroskedasticity lead to incorrect standard errors and decrease Type 1 error rate, and therefore, power. Furthermore, transforming my data would do little to alleviate non-normality and can lead to increased assumption violations thus neither addressing or alleviating the effects of outliers in the data (Field & Wilcox, 2017). Another way to address issues of non-normality and heteroskedasticity is to estimate standard errors and confidence intervals empirically by using at least 1000 bootstrapped samples. Bootstrapping involves randomly selecting a score from the sample and then sampling with replacement, meaning the same number can be selected again when forming a bootstrapped sample. This process is repeated at least 1000 times in order for the data to be robust toward assumption violations (Field & Wilcox, 2017).

Main Analyses

To analyze my hypotheses, I only included participants who reported at least one hour of weekly online play- excluding all participants who reported only playing offline (n = 165), hence only about 200 to 250 participants per analysis. Bootstrapping for correlations and regressions were done within SPSS. Bootstrapping within moderation models were also done within SPSS within the PROCESS algorithm. To begin, I first reviewed correlations among all measured variables.

Correlations and Regressions

My first hypothesis, that time spent playing video games increased participants' likelihood to commit sexual and general harassment, was not supported. Only one result approached significance which was between hours played per week and general

harassment (r = .113 [.006, .220], p = .085). See Tables 1, 2, and 3 for all correlations. It should be noted that occasionally, some correlations/regressions have p-values that do not match their confidence intervals. For example, the correlation between benevolent sexism and exposure to video game violence is not statistically significant, r = .128 [.009, .242], p = .051, however the confidence interval does not include zero. Conversely, the correlation between hours played and the sexism composite (hostile and benevolent sexism) was statistically significant, r = -.137 [-.270, .012], p = .037, but the confidence interval includes zero. Where associations have confidence intervals containing zero, despite a significant p-value, such associations should be viewed skeptically.

Table 1

Correlations Between Time Spent Playing Video Games and Harassment (5000 Bootstrapped Samples, 95% Confidence Intervals, n = 233)

Measure	Exposure Score	Hostile Sexism	Benevolent Sexism	Sexism Composite	Chatting Level
Exposure Score	1				
Hostile Sexism	.056 [-.058, .178] p = .395	1			
Benevolent Sexism	.128 [.009, .242] p = .051	.306 [.161, .443] p < .001	1		
Sexism Composite (Both Hostile & Benevolent)	.111 [-.005, .225] p = .090	.829 [.787, .866] p < .001	.786 [.723, .839] p < .001	1	
Chatting Level	.298 [.183, .408] p < .001	.101 [-.032, .233] p = .123	.068 [-.072, .206] p = .303	.106 [-.028, .235] p = .108	1

Table 2

Correlations Between Time Spent Playing Video Games and Harassment (5000 Bootstrapped Samples, 95% Confidence Intervals, n = 233)

Meas-ure	Exposure Score	Hostile Sexism	Benevolent Sexism	Sexism Compos-ite	Chatting Level	Hours Per Week Offline	Hours Per Week Online
Hours Per Week Offline	.212 [.081, .343] p = .001	-.110 [-.238, .023] p = .093	-.068 [-.199, .072] p = .305	-.111 [-.254, .039] p = .090	.010 [-.122, .141] p = .880	1	
Hours Per Week Online	.102 [-.020, .231] p = .119	-.006 [-.122, .115] p = .923	-.157 [-.291, -.017] p = .017	-.096 [-.225, .035] p = .143	.291 [.178, .405] p < .001	.145 [-.013, .296] p = .027	1
Hours Per Week	.259 [.144, .374] p < .001	-.064 [-.189, .074] p = .329	-.162 [-.293, -.021] p = .014	-.137 [-.270, .012] p = .037	.260 [.128, .381] p < .001	.611 [.482, .714] p < .001	.770 [.706, .824] p < .001

Table 3

Correlations Between Time Spent Playing Video Games and Harassment (5000 Bootstrapped Samples, 95% Confidence Intervals, n = 233)

Measure	Exposure Score	Hostile Sexism	Benevolent Sexism	Sexism Composite	Chatting Level	Hours Per Week Offline	Hours Per Week Online	Hours Per Week	General Harassment
General Harassment	.229 [.099, .357] p < .001	.310 [.179, .433] p < .001	.166 [.029, .295] p = .011	.299 [.176, .413] p < .001	.299 [.170, .425] p < .001	.029 [-.090, .153] p = .654	.072 [-.056, .204] p = .271	.113 [.006, .220] p = .085	1
Sexual Harassment	.264 [.112, .399] p < .001	.241 [.149, .335] p < .001	.166 [.066, .261] p = .011	.254 [.174, .336] p < .001	.213 [.098, .318] p = .001	.081 [-.044, .211] p = .217	-0.017 [-.126, .103] p = .794	.000 [-.105, .113] p = .998	.588 [.492, .680] p < .001

In addition to correlations, I also performed six regressions, one for each of the three predictor variables (hours played offline, hours played online, and composite hours played) and for both outcome variables (general and sexual harassment) to examine the direct relationships between hours played and both types of harassment in the absence of moderators and covariates. I also performed two additional regressions – one with all three predictors (composite, online, and offline play) and general harassment, and one with all three predictors and sexual harassment (labeled "All"). All analyses utilized 5000 bootstrap samples with 95% confidence intervals with pairwise deletion. Only one model was significant – composite hours played per week (online and offline play; heretofore referred to as hours played) significantly predicted general harassment (*B* = .013 [.001,

.027], *SE* = .006, *p* = .037), but not without bootstrapped samples (*B* = .013, *SE* = .007, *p* = .074). See Tables 4, 5, 6, and 7 for full regression results.

Table 4

Regressions with Offline, Online, and Composite Hours Played as Predictor Variables and General Harassment as a Dependent Variable without Bootstrapped Samples

	B	SE	Standard-ized B	F	t	t p/F p	df
Offline*General	0.006	0.012	0.034	0.265	0.515	.607	235
Online*General	0.012	0.010	0.078	1.447	1.203	.230	235
Composite*General	0.013	0.007	0.116	3.229	1.797	.074	235
Offline*General (All)	-0.023	0.020	-0.126	1.572	-1.186	.237/.197	233
Online*General (All)	-0.020	0.020	-0.133	1.572	-0.989	.324/.197	233
Composite*General (All)	0.034	0.019	0.296	1.572	1.773	.078/.197	233

Note. General = general harassment; Sexual = sexual harassment; Offline = offline hours played per week; Online = online hours played per week; Composite = total hours online and offline of video game play per week, All = regression significance when predictors were all entered into the same regression model, and not separately.

Table 5

Regressions with Offline, Online, and Composite Hours Played as Predictor Variables and Sexual Harassment as a Dependent Variable without Bootstrapped Samples

	B	SE	Standard-ized B	F	t	t p/F p	df
Offline*Sexual	0.010	0.009	0.073	1.266	1.125	.262	237
Online*Sexual	-0.002	0.007	-0.021	0.109	-0.330	.741	237
Composite*Sexual	<.001	0.005	-0.005	0.006	-0.079	.937	237
Offline*Sexual (All)	0.022	0.014	0.167	0.880	1.566	.119/.452	235
Online*Sexual (All)	0.010	0.015	0.091	0.880	0.679	.498/.452	235
Composite*Sexual (All)	-0.014	0.014	-0.177	0.880	-1.060	.290/.452	235

Note. General = general harassment; Sexual = sexual harassment; Offline = offline hours played per week; Online = online hours played per week; Composite = total hours online and offline of video game play per week, All = regression significance when predictors were all entered into the same regression model, and not separately.

Table 6

Regressions with Offline, Online, and Composite Hours Played as Predictor Variables and General Harassment as a Dependent Variable with Bootstrapped Samples (5000 Bootstrapped Samples, 95% Confidence Intervals)

	R^2	B	Bias	SE	p	df	LLCI	ULCI
Offline*General	0.001	0.006	<.001	0.011	.570	235	-0.016	0.027
Online*General	0.006	0.012	<.001	0.010	.235	235	-0.008	0.033
Composite*General	0.014	0.013	<.001	0.006	.037	235	0.001	0.027
Offline*General (All)	0.020	-0.023	-0.001	0.022	.289	233	-0.073	0.016
Online*General (All)	0.020	-0.020	-0.002	0.025	.421	233	-0.073	0.025
Composite*General (All)	0.020	0.033	0.002	0.022	.112	233	-0.005	0.082

Note. General = general harassment; Sexual = sexual harassment; Offline = offline hours played per week; Online = online hours played per week; Composite = total hours online and offline of video game play per week, All = regression significance when predictors were all entered into the same regression model, and not separately.

Table 7

Regressions with Offline, Online, and Composite Hours Played as Predictor Variables and Sexual Harassment as a Dependent Variable with Bootstrapped Samples (5000 Bootstrapped Samples, 95% Confidence Intervals)

	R^2	B	Bias	SE	p	df	LLCI	ULCI
Offline*Sexual	0.005	0.010	<.001	0.009	.266	237	-0.006	0.028
Online*Sexual	<.001	-0.002	<.001	0.006	.710	237	-0.014	0.010
Composite*Sexual	<.001	<.001	<.001	0.005	.928	237	-0.009	0.009
Offline*Sexual (All)	0.013	0.024	-0.001	0.017	.163	232	-0.014	0.054
Online*Sexual (All)	0.013	0.011	-0.001	0.018	.526	232	-0.026	0.043
Composite*Sexual (All)	0.013	-0.016	0.001	0.016	.325	232	-0.045	0.019

Note. General = general harassment; Sexual = sexual harassment; Offline = offline hours played per week; Online = online hours played per week; Composite = total hours online and offline of video game play per week, All = regression significance when predictors were all entered into the same regression model, and not separately.

To test Hypothesis 2 & 3, I utilized multiple moderation by using PROCESS Model 2 (Hayes, 2018, 2019), with time spent playing video games as a predictor variable and sexual and general harassment as outcome variables. Moderators were exposure to video game violence and hostile and benevolent sexism. I analyzed time spent chatting online as a covariate. See *Figure 1* for a pathway diagram of Model 2. Players can only harass people online if they play online, and composite amount of play

captures the potential influence offline play has in addition to online play. Another reason for removing offline play (by itself) as a predictor was the reduction in total number of models tested. For my analyses, after further consideration, I decided to only report composite hours played as my predictor variable within the main body of this report. Only composite hours played attained significance in my correlation and regression analyses. Upon reviewing the data, the results were very similar for total hours played or hours played online as predictors. Hours played offline resulted in non-significance more often than hours played and hours played online. To avoid redundancy, I only report the results with total hours played as the predictor variable because it included all types of play. See Appendices I and J for results when hours played online and offline were individual predictor variables.

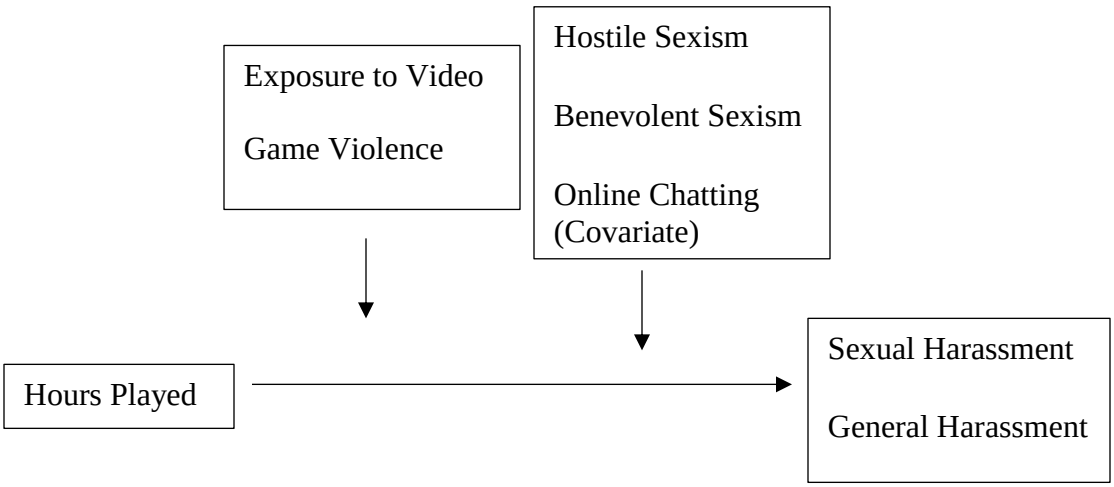

Figure 1. Pathway diagram of moderation Model 2.

I used multiple moderation (PROCESS Model 2; Hayes, 2018, 2019) to explore my second and third hypotheses, predicting that the relationship between hours played and sexual and general harassment would be moderated by exposure to video game violence and sexist attitudes, with online chatting as a covariate.

To test the moderating effect of exposure to video game violence and sexist attitudes and its effect on hours played on sexual and general harassment (Hypotheses 2 and 3), I performed four multiple moderation analyses (PROCESS Model 2) with exposure to video game violence always as one of the moderators because exposure is the most important part of Hypotheses 2 and 3. The first used hours played as a predictor, sexual harassment as a dependent variable, *w* (the first moderator) as exposure to video game violence, and *z* as hostile sexism. The second used hours played as a predictor, sexual harassment as a dependent variable, *w* (the first moderator) as exposure to video game violence, and *z* as benevolent sexism. The third used hours played as a predictor, general harassment as a dependent variable, *w* (the first moderator) as exposure to video game violence, and *z* as hostile sexism. The fourth used hours played as a predictor, general harassment as a dependent variable, *w* (the first moderator) as exposure to video game violence, and *z* as benevolent sexism. Exposure was always treated as a moderator. Multiple moderation (PROCESS Model 2) tests two moderators at the same time to allow for better comparisons between models and fewer tested models. Each pair of moderators measures the effect of hours played on sexual and general harassment.

When the effect of hours played on sexual and general harassment is estimated as an additive linear function of both moderators in the model, it makes the effect of hours

played conditional on both moderators. Model 2 holds both moderating variables constant and estimates the effect of hours played on harassment when both moderators are zero. With Model 2, the effect of hours played can be a function of more than one moderator simultaneously. The ability to test multiple moderators allowed me to test the partial effect of hours played on harassment (Hayes, 2018, p. 320-321).

PROCESS Model 2 examines two, two-way interactions (double moderation). For example, hours played predicting general harassment with exposure and hostile sexism as simultaneous moderators, would test the following main effects and interactions: hours played predicting harassment, exposure predicting harassment, hours played*exposure predicting harassment, sexist attitudes predicting harassment, hours played*sexist attitudes predicting harassment, and exposure*sexist attitudes predicting harassment. Conditional analyses within PROCESS Model 2 further allow for simple slopes inspections for the predictor and moderators at +1/-1 SD above and below the centered mean respectively. Note that interpretation of conditional effects for double moderation takes the form of interpreting a 3-way interaction; importantly though, PROCESS Model 2 conditional effects do not test the full 3-way interaction on predictor variables, but instead, constrain the moderating effect of W (e.g., exposure) and Z (e.g., sexist attitudes) on X (e.g., hours played) independent of the other moderator in the model (Hayes, 2018, p. 320-330).

In regards to moderation effects, the data are formatted to set the average hours played at zero, where points of note are either at the mean (set at zero) or one standard deviation above or one standard deviation below the mean. This makes interpretation

clearer at low (-1 SD), mean, and high (+1 SD) levels and compare results between variables. Average levels were scaled to quantify as a zero, representing the mean number of hours played. See Tables 8 and 9 for the specific numerical points that represent one standard deviation below the mean, the mean, and one standard deviation above the mean. See Tables 10 and 11 for average scores of sexual and general harassment and hostile and benevolent sexism for online and offline play.

Table 8

Descriptive Statistics Showing the Standardized Scores for the Mean, -1 SD, and +1 SD for Exposure, Sexism, Hostile Sexism, Benevolent Sexism, Chatting Level, Hours Played, Hours Played Online, General Harassment, and Sexual Harassment without Bootstrapping

Variable (N)	-1 SD	Mean	+1 SD	SE	Min	Max (Scale Cap)	SD	n
Exposure	10.852	23.652	36.452	0.826	2.000	66.000	12.800	240
ASI Composite	2.366	3.252	4.139	0.058	1.000	5.182 (6)	0.886	236
ASI Hostile	2.029	3.178	4.327	0.075	1.000	6.000 (6)	1.149	237
ASI Benevolent	2.291	3.325	4.360	0.067	1.000	5.636 (6)	1.034	239
Chatting Level	1.990	3.090	4.190	0.071	1.000	5.000 (5)	1.100	240
HPW	3.494	11.546	19.597	0.520	1.000	40.000	8.052	240
HPW Online	0.599	6.592	12.584	0.387	1.000	25.000	5.992	240
HPW Offline	-0.361	4.604	9.569	0.321	0.000	25.000	4.965	240
General Harassment	1.284	2.196	3.108	0.059	1.000	5.000 (5)	0.912	237
Sexual Harassment	0.744	1.401	2.058	0.043	1.000	3.800 (5)	0.657	239

Note. HPW = hours played per week. Exposure = exposure to violent video games; ASI composite = ambivalent sexism inventory composite score; ASI Hostile = hostile sexism subscale of the ambivalent sexism inventory; ASI Benevolent = benevolent sexism subscale of the ambivalent sexism inventory; Chatting level = amount of time participants reported chatting with other players online; HPW = total hours online and offline of video game play per week; HPW Online = online hours of video game play per week; HPW Offline = offline hours of video game play per week.

Table 9

Descriptive Statistics Showing the Standardized Scores the Mean, -1 SD, and +1 SD for Exposure, Sexism, Hostile Sexism, Benevolent Sexism, Chatting Level, Hours Played, Hours Played Online, General Harassment, and Sexual Harassment (5000 Bootstrapped Samples, 95% Confidence Intervals)

Variable (N)	-1 SD	Mean	+1 SD	SE	Min	Max (Scale Cap)	SD	n
Exposure	10.725	23.686 [22.073, 25.378]	36.647	0.849	2.000	66.000	12.961	233
ASI Composite	2.357	3.247 [3.133, 3.360]	4.137	0.058	1.000	5.180 (6)	0.890	233
ASI Hostile	2.015	3.171 [3.026, 3.318]	4.327	0.076	1.000	6.000 (6)	1.156	233
ASI Benevolent	2.278	3.322 [3.184, 3.456]	4.366	0.068	1.000	5.640 (6)	1.044	233
Chatting Level	1.964	3.070 [2.930, 3.220]	4.176	0.072	1.000	5.000 (5)	1.106	233
HPW	3.429	11.472 [10.470, 12.535]	19.515	0.527	1.000	40.000	8.043	233
HPW Online	0.649	6.567 [5.817, 7.356]	12.485	0.388	1.000	25.000	5.918	233
HPW Offline	-0.408	4.601 [3.979, 5.264]	9.610	0.328	0.000	25.000	5.009	233
General Harassment	1.281	2.198 [2.084, 2.317]	3.115	0.060	1.000	5.000 (5)	0.917	233
Sexual Harassment	0.738	1.398 [1.317, 1.486]	2.058	0.043	1.000	3.800 (5)	0.660	233

Note. HPW = hours played per week. Exposure = exposure to violent video games; ASI composite = ambivalent sexism inventory composite score; ASI Hostile = hostile sexism subscale of the ambivalent sexism inventory; ASI Benevolent = benevolent sexism subscale of the ambivalent sexism inventory; Chatting level = amount of time participants reported chatting with other players online; HPW = total hours online and offline of video game play per week; HPW Online = online hours of video game play per week; HPW Offline = offline hours of video game play per week.

Table 10

Averages for Harassment and Sexism for Online and Offline Play Without Bootstrapping (95% Confidence Intervals)

		Sexual Harassment (Scale Cap)	General Harassment (Scale Cap)	Hostile Sexism (Scale Cap)	Benevolent Sexism (Scale Cap)
Online Play with Offline Play Included (Online Play > 0)		1.401 (5) [1.317, 1.485]	2.196 (5) [2.079, 2.313]	3.178 (6) [3.031, 3.325]	3.325 (6) [3.193, 3.457]
	n	239	237	237	239
Offline Play with Online Play Included (Offline Play > 0)		1.344 (5) [1.273, 1.415]	2.068 (5) [1.967, 2.168]	3.065 (6) [2.929, 3.201]	3.368 (6) [3.243, 3.493]
	n	291	290	287	291
Online Play without Offline Play (Offline Play = 0)		1.286 (5) [1.185, 1.386]	1.851 (5) [1.657, 2.045]	3.160 (6) [2.918, 3.401]	3.372 (6) [3.172, 3.573]
	n	110	110	114	114
Offline Play without Online Play (Online Play = 0)		1.209 (5) [1.139, 1.279]	1.729 (5) [1.596, 1.863]	2.961 (6) [2.761, 3.160]	3.430 (6) [3.253, 3.608]
	n	160	161	162	164
Both Offline and Online Play (No Play Filters)		1.328 (5) [1.269, 1.386]	2.008 (5) [1.918, 2.098]	3.092 (6) [2.973, 3.210]	3.369 (6) [3.263, 3.475]
	n	401	400	401	405

Table 11

Averages for Harassment and Sexism for Online and Offline Play (5000 Bootstrapped Samples, 95% Confidence Intervals)

		Sexual Harassment (Scale Cap)	General Harassment (Scale Cap)	Hostile Sexism (Scale Cap)	Benevolent Sexism (Scale Cap)
Online Play with Offline Play Included (Online Play > 0)		1.398 (5) [1.315, 1.485]	2.198 (5) [2.082, 2.318]	3.171 (6) [3.020, 3.322]	3.322 (6) [3.185, 3.458]
	n	233	233	233	233
Offline Play with Online Play Included (Offline Play > 0)		1.345 (5) [1.275, 1.418]	2.078 (5) [1.977, 2.185]	3.054 (6) [2.917, 3.191]	3.369 (6) [3.240, 3.494]
	n	281	281	281	281
Online Play without Offline Play (Offline Play = 0)		1.286 (5) [1.193, 1.392]	1.851 (5) [1.665, 2.047]	3.190 (6) [2.954, 3.442]	3.409 (6) [3.206, 3.601]
	n	110	110	110	110
Offline Play without Online Play (Online Play = 0)		1.214 (5) [1.147, 1.287]	1.737 (5) [1.603, 1.878]	2.970 (6) [2.770, 3.170]	3.463 (6) [3.282, 3.636]
	n	156	156	156	156
Both Offline and Online Play (No Play Filters)		1.328 (5) [1.273, 1.389]	2.014 (5) [1.923, 2.108]	3.093 (6) [2.973, 3.210]	3.380 (6) [3.274, 3.485]
	n	391	391	391	391

Sexual Harassment

Effect of hours played on sexual harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(6,230) = 7.973$, $p < .001$, $R^2 = .1722$.

Individually, only exposure $b = .013$, $t(230) = 3.927$, $p < .001$ and hostile sexism $b = .115$, $t(230) = 3.304$, $p = .001$ positively and significantly predicted sexual harassment. The interaction between hours played and exposure $b = -.001$, $t(230) = -2.767$, $p = .006$ significantly and negatively predicted sexual harassment. See Table 12 for the rest of the main effects.

Table 12

Main Effects of Hours Played per Week on Sexual Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	Δ R^2	F
Model Significance				p<.001				7.973
Constant	1.220	0.128	9.528	p<.001	0.968	1.472		
HPW	-0.006	0.005	-1.139	.256	-0.016	0.004		
Exposure	0.013	0.003	3.927	p<.001	0.007	0.020		
Hostile Sexism	0.115	0.035	3.304	.001	0.046	0.184		
Chatting Level	0.070	0.039	1.790	.075	-0.007	0.146		
HPW*Exposure	-0.001	0.0004	-2.767	.006	-0.002	-0.0003	0.028	7.656
HPW*Hostile	0.003	0.004	0.589	.556	-0.006	0.011	0.001	0.347
Exposure*Hostile				.015			0.031	4.267

Note: HPW = HPW = total hours online and offline of video game play per week; Exposure = exposure to violent video games; Hostile sexism = hostile sexism subscale of the ambivalent sexism inventory; Chatting level = amount of time participants reported chatting with other players online.

Conditional effects of hours played on sexual harassment with exposure and hostile sexism as moderators. Interpretation of conditional effects for double moderation takes the form of interpreting a 3-way interaction, however PROCESS Model 2 conditional effects do not test the full 3-way interaction on predictor variables (does not include the interaction between moderators). When participants reported low to average exposure to video game violence, the number of hours played did not predict their level of sexual harassment. This pattern held at high, average, and low levels of reported hostile sexism. However, when participants were exposed to high levels of video game violence, increased hours of play were negatively associated with reported sexual harassment. High levels of exposure moderated hours of play on sexual harassment only at low to average levels of hostile sexism. See Figure 2 for a visual representation. See Table 13 for the rest of the conditional effects.

Table 13

Conditional Effects of Hours Played per Week at Values of Exposure to Video Game Violence and Hostile Sexism on Sexual Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
-12.856	-1.149	0.006	0.009	0.650	.516	-0.012	0.024
-12.856	0.000	0.009	0.008	1.149	.252	-0.006	0.024
-12.856	1.149	0.012	0.009	1.276	.203	-0.006	0.030
0.000	-1.149	-0.009	0.007	-1.335	.183	-0.022	0.004
0.000	0.000	-0.006	0.005	-1.139	.256	-0.016	0.004
0.000	1.149	-0.003	0.008	-0.399	.691	-0.018	0.012
12.856	-1.149	-0.024	0.008	-2.955	.004	-0.039	-0.008
12.856	0.000	-0.021	0.007	-2.828	.005	-0.035	-0.006
12.856	1.149	-0.018	0.010	-1.857	.065	-0.037	0.001

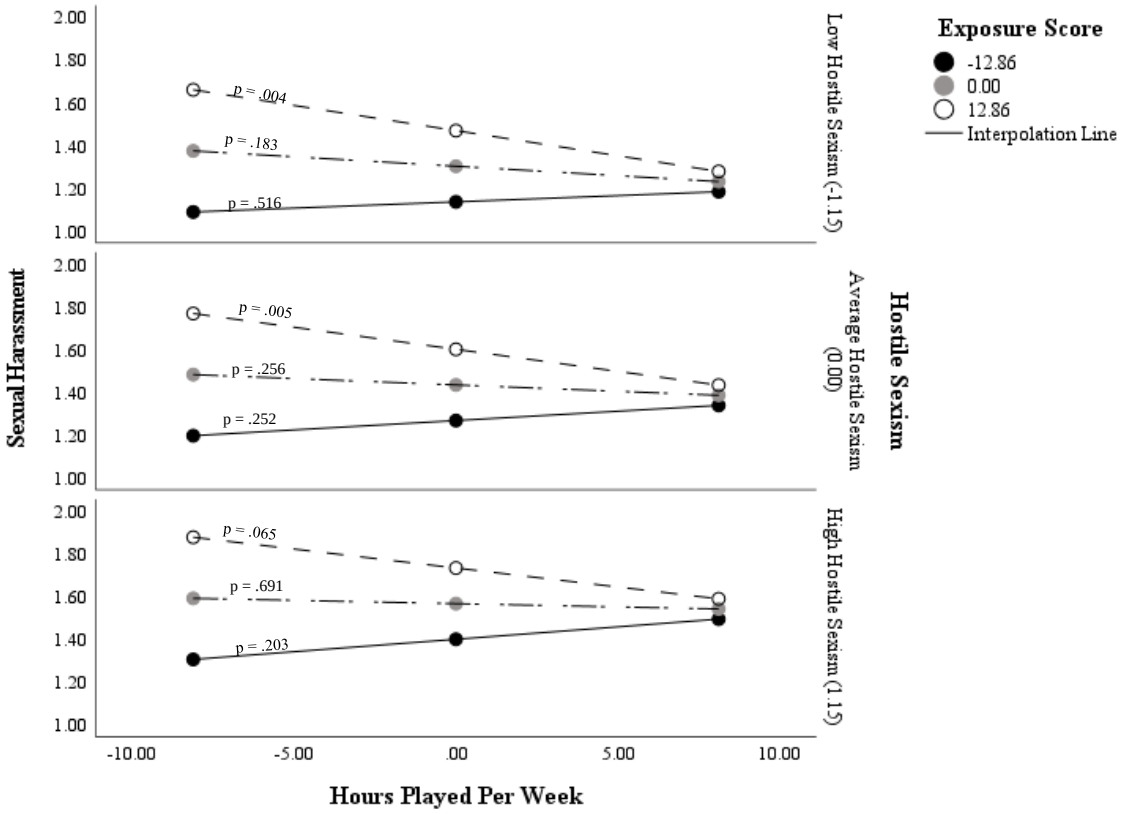

Figure 2. Visual representation of the effect of hours played on sexual harassment with exposure and hostile sexism as moderators and chatting level as a covariate.

Effect of hours played on sexual harassment with exposure and benevolent sexism as moderators. The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,231) = 6.376$, $p < .001$, $R^2 = .1421$.

Only exposure $b = .013$, $t(231) = 3.737$, $p < .001$ and chatting level $b = .080$, $t(231) = 2.013$, $p = .045$ positively and significantly predicted sexual harassment. The interaction between hours played and exposure $b = -.001$, $t(231) = -2.896$, $p = .004$

negatively and significantly predicted sexual harassment. See Table 14 for the rest of the main effects.

Table 14

Main Effects of Hours Played per Week on Sexual Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	Δ R^2	F
Model Significance				p<.001				6.376
Constant	1.188	0.130	9.119	p<.001	0.932	1.445		
HPW	-0.006	0.005	-1.124	.262	-0.017	0.005		
Exposure	0.013	0.003	3.737	p<.001	0.006	0.019		
Benevolent Sexism	0.063	0.040	1.574	.117	-0.016	0.142		
Chatting Level	0.080	0.040	2.013	.045	0.002	0.158		
HPW*Exposure	-0.001	0.0004	-2.896	.004	-0.002	-0.0004	0.031	8.385
HPW*Benevolent	0.002	0.005	0.391	.697	-0.007	0.011	0.001	0.153
Exposure*Benevolent				.015			0.032	4.295

Note: HPW = hours played per week.

Conditional effects of hours played on sexual harassment with exposure and benevolent sexism as moderators. When participants reported low to average exposure to video game violence, the number of hours played did not predict their level of sexual harassment, and this pattern held at high, average, and low levels of reported benevolent sexism. However, when participants were exposed to high levels of video game violence, increased hours of play were negatively associated with reported sexual harassment. High levels of exposure moderated hours of play on sexual harassment at low, average, and high levels of benevolent sexism. See Table 15 for the rest of the conditional effects. See Figure 3 for a visual representation.

Table 15

Conditional Effects of Hours Played per Week at Values of Exposure to Video Game Violence and Benevolent Sexism on Sexual Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Ben-evolent Sexism	Effect	SE	t	p	LLCI	ULCI
-12.840	-1.035	0.008	0.009	0.850	.396	-0.010	0.025
-12.840	0.000	0.010	0.008	1.209	.228	-0.006	0.025
-12.840	1.035	0.011	0.009	1.220	.224	-0.007	0.030
0.000	-1.035	-0.008	0.007	-1.146	.253	-0.021	0.006
0.000	0.000	-0.006	0.005	-1.124	.262	-0.017	0.005
0.000	1.035	-0.004	0.007	-0.574	.567	-0.019	0.010
12.840	-1.035	-0.023	0.009	-2.766	.006	-0.040	-0.007
12.840	0.000	-0.022	0.007	-2.926	.004	-0.036	-0.007
12.840	1.035	-0.020	0.009	-2.196	.029	-0.038	-0.002

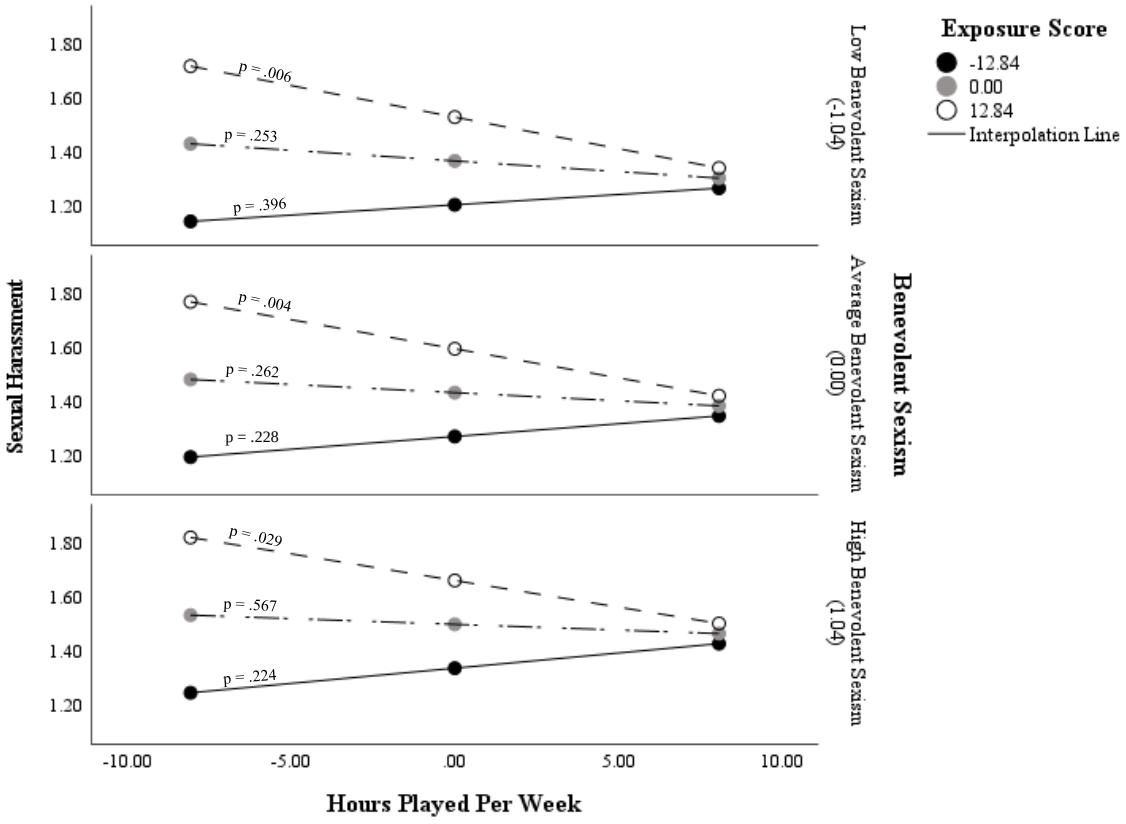

Figure 3. Visual representation of the effect of hours played on sexual harassment with exposure and benevolent sexism as moderators

General Harassment

Effect of hours played on general harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(6,227) = 11.643$, $p < .001$, $R^2 = .2353$.

Exposure $b = .012$, $t(227) = 2.653$, $p = .009$, hostile sexism $b = .219$, $t(227) = 4.706$, $p < .001$, and chatting level $b = .147$, $t(227) = 2.824$, $p = .005$ positively and significantly predicted general harassment. The interaction between hours played and

exposure b = -.002, $t(227)$ = -3.415, p = .001 negatively and significantly predicted general harassment. See Table 16 for all main effects.

Table 16

Main Effects of Hours Played per Week on General Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				11.643
Constant	1.799	0.171	10.522	p<.001	1.462	2.136		
HPW	0.008	0.007	1.122	.263	-0.006	0.022		
Exposure	0.012	0.004	2.653	.009	0.003	0.021		
Hostile Sexism	0.219	0.047	4.706	p<.001	0.128	0.311		
Chatting Level	0.147	0.052	2.824	.005	0.044	0.249		
HPW*Exposure	-0.002	0.001	-3.415	.001	-0.003	-0.001	0.039	11.660
HPW*Hostile	0.007	0.006	1.218	.225	-0.004	0.019	0.005	1.483
Exposure*Hostile				.001			0.048	7.176

Note: HPW = hours played per week.

Conditional effects of hours played on general harassment with exposure and hostile sexism as moderators. When participants were exposed to low levels of video game violence, increased hours of play were positively associated with reported general harassment. Low levels of exposure moderated hours of play on general harassment at low, average, and high levels of hostile sexism. When participants reported average levels of exposure to video game violence, the number of hours played did not predict their level of general harassment, and this pattern held at high, average, and low levels of hostile sexism. However, when participants were exposed to high levels of video game violence, increased hours of play were negatively associated with reported general harassment. High levels of exposure moderated hours of play on general harassment only

at low levels of hostile sexism. See Table 17 for the rest of the conditional effects. See Figure 4 for a visual representation.

Table 17

Conditional Effects of Hours Played per Week at Values of Exposure to Video Game Violence and Hostile Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
-12.934	-1.154	0.024	0.012	2.006	.046	0.0004	0.048
-12.934	0.000	0.032	0.010	3.148	.002	0.012	0.053
-12.934	1.154	0.041	0.013	3.255	.001	0.016	0.065
0.000	-1.154	-0.0002	0.009	-0.017	.986	-0.018	0.017
0.000	0.000	0.008	0.007	1.122	.263	-0.006	0.022
0.000	1.154	0.016	0.011	1.528	.128	-0.005	0.037
12.934	-1.154	-0.025	0.011	-2.292	.023	-0.046	-0.003
12.934	0.000	-0.016	0.010	-1.661	.098	-0.036	0.003
12.934	1.154	-0.008	0.013	-0.634	.526	-0.034	0.017

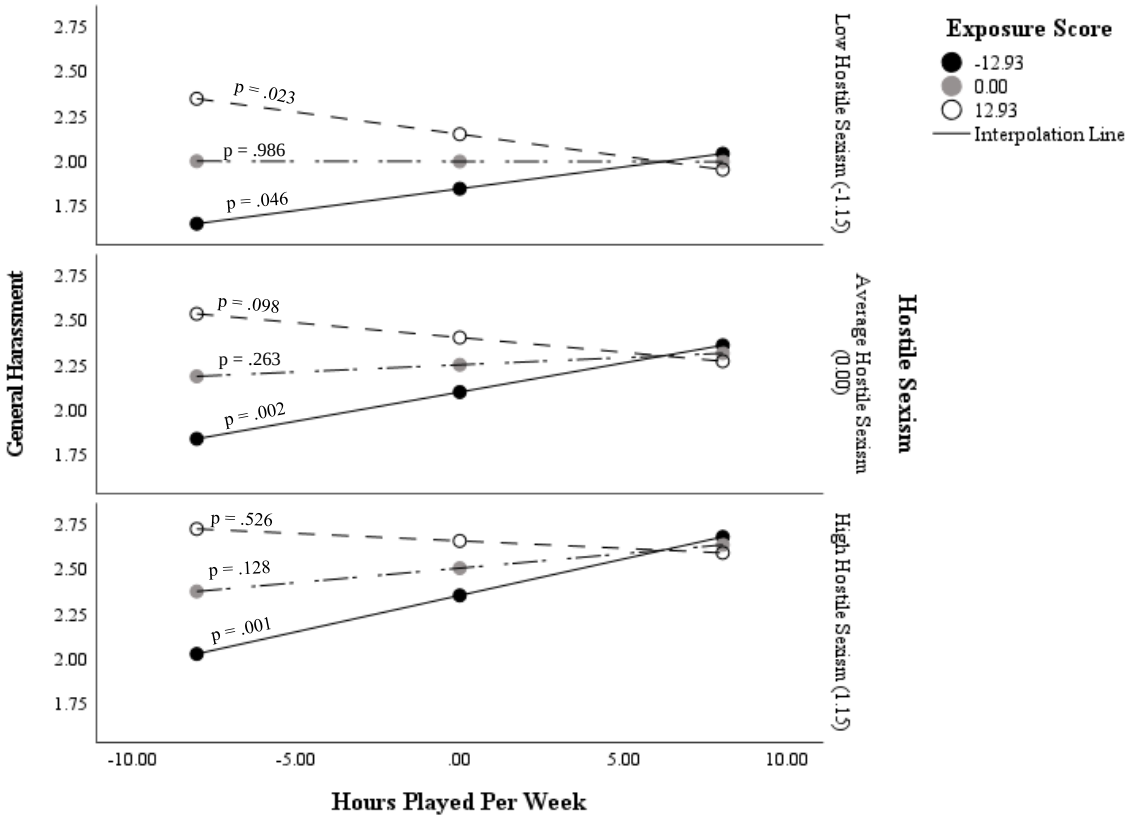

Figure 4. Visual representation of the effect of hours played on general harassment with exposure and hostile sexism as the moderators and chatting level as a covariate.

Effect of hours played on general harassment with exposure and benevolent sexism as moderators. The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,229) = 8.346$, $p < .001$, $R^2 = .1794$.

Exposure $b = .011$, $t(229) = 2.324$, $p = .021$, benevolent sexism $b = .116$, $t(229) = 2.126$, $p = .035$, and chatting level $b = .175$, $t(229) = 3.259$, $p = .001$ positively and significantly predicted general harassment. The interaction between hours played and

exposure b = -.002, $t(229)$ = -3.592, p < .001 negatively and significantly predicted general harassment. See Table 18 for the rest of the main effects.

Table 18

Main Effects of Hours Played per Week on General Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				8.346
Constant	1.722	0.177	9.755	p<.001	1.375	2.070		
HPW	0.007	0.007	0.959	.338	-0.008	0.022		
Exposure	0.011	0.005	2.324	.021	0.002	0.020		
Benevolent Sexism	0.116	0.055	2.126	.035	0.009	0.224		
Chatting Level	0.175	0.054	3.259	.001	0.069	0.281		
HPW*Exposure	-0.002	0.001	-3.592	p<.001	-0.003	-0.001	0.046	12.901
HPW*Benevolent	0.006	0.006	1.024	.307	-0.006	0.018	0.004	1.048
Exposure*Benevolent				.001			0.051	7.046

Note: HPW = hours played per week.

Conditional effects of hours played on general harassment with exposure and benevolent sexism as moderators. When participants were exposed to low levels of video game violence, increased hours of play were positively associated with reported general harassment. Low levels of exposure moderated hours of play on general harassment at low, average, and high levels of benevolent sexism. When participants reported average levels of exposure to video game violence, the number of hours played did not predict their level of general harassment, and this pattern held at high, average, and low levels of benevolent sexism. However, when participants were exposed to high levels of video game violence, increased hours of play were negatively associated with reported general harassment. High levels of exposure moderated hours of play on general harassment only at low levels of benevolent sexism. See Figure 5 for a visual representation.

Table 19

Conditional Effects of Hours Played per Week at Values of Exposure to Video Game Violence and Benevolent Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Benevolent Sexism	Effect	SE	t	p	LLCI	ULCI
-12.903	-1.040	0.027	0.012	2.190	.030	0.003	0.051
-12.903	0.000	0.033	0.011	3.111	.002	0.012	0.055
-12.903	1.040	0.040	0.013	3.139	.002	0.015	0.065
0.000	-1.040	0.001	0.009	0.062	.950	-0.018	0.019
0.000	0.000	0.007	0.007	0.959	.338	-0.008	0.022
0.000	1.040	0.014	0.010	1.343	.181	-0.006	0.034
12.903	-1.040	-0.026	0.012	-2.220	.027	-0.048	-0.003
12.903	0.000	-0.019	0.010	-1.893	.060	-0.039	0.001
12.903	1.040	-0.013	0.012	-1.020	.309	-0.037	0.012

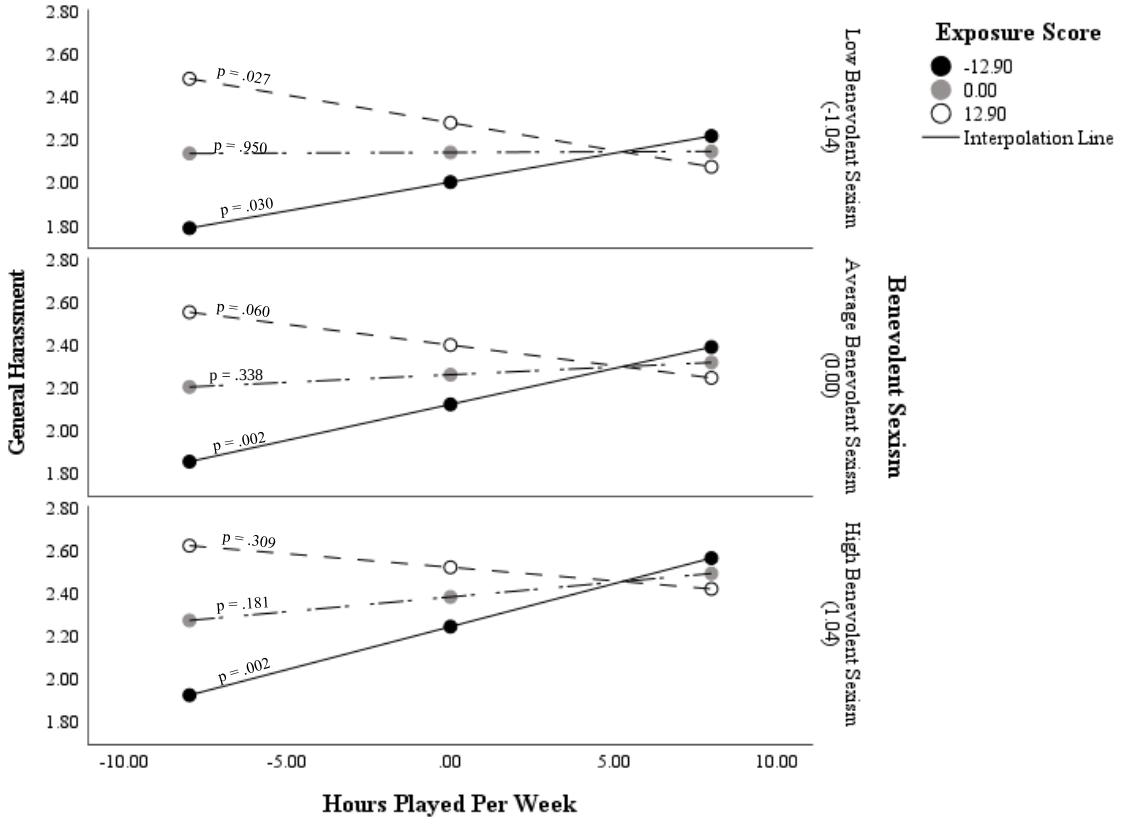

Figure 5. Visual representation of the effect of hours played on general harassment with exposure and benevolent sexism as moderators and chatting level as a covariate.

Exploratory Analyses

To further investigate my hypotheses, I examined whether my moderators moderated the effect of exposure of video game violence on harassment, and to ascertain whether or not a moderated moderation effect could better explain the results at high levels of exposure. The preceding moderation analyses tested two simultaneous, two-way interactions with multiple moderators. For my exploratory analyses, the moderated moderation model tests the full 3-way interaction. I performed four moderated moderation analyses. Each analysis kept exposure as the primary moderation variable,

while hostile sexism and benevolent sexism moderated the moderation of exposure. I analyzed amount of time spent chatting as a covariate. This was to ascertain if hostile and benevolent sexism moderated exposure, which moderated the relationship between hours played and harassment. To test these variables in a moderated moderation model, I performed four moderated moderation models (PROCESS Model 3) with 95% confidence intervals and 5000 bootstrap samples. See *Figure 6* for a pathway diagram of Model 3.

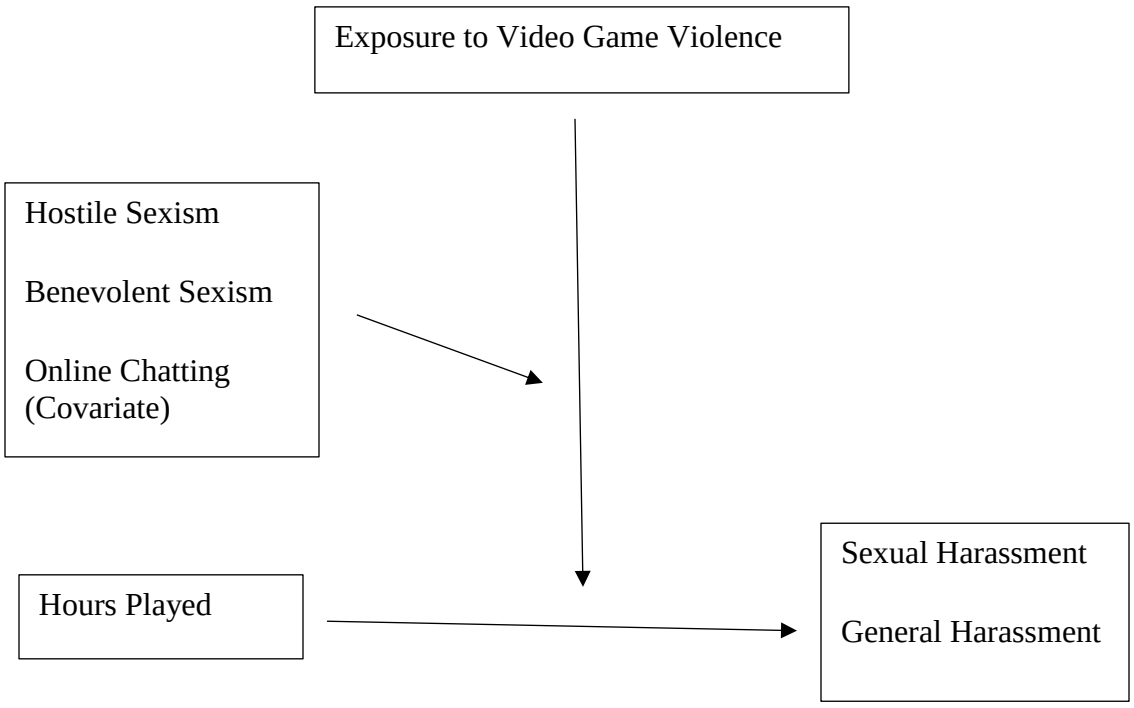

Figure 6. Pathway diagram of Model 3.

Sexual Harassment

The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(8, 228) = 6.549$, $p < .001$, $R^2 = .1869$.

However, the relevant conditional interaction between hours played, exposure, and hostile sexism did not significantly predict sexual harassment, $b = -.001$, $t(228) = -1.612$, $p = .108$. See Table 20 for the rest of the main effects. There were no significant conditional effects. See Figure 7 for a visual representation.

Table 20

Main Effects of Hours Played per Week on Sexual Harassment with Exposure as a Moderator and Hostile Sexism as Moderator to the Moderator and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				6.549
Constant	1.223	0.128	9.582	p<.001	0.971	1.474		
HPW	-0.007	0.005	-1.310	.192	-0.017	0.004		
Exposure	0.013	0.003	3.778	p<.001	0.006	0.019		
Hostile Sexism	0.134	0.036	3.724	p<.001	0.063	0.206		
Chatting Level	0.067	0.039	1.719	.087	-0.010	0.143		
HPW*Exposure	-0.001	0.0004	-2.888	.004	-0.002	-0.0004		
HPW*Hostile	0.0003	0.005	0.067	.947	-0.009	0.009		
Exposure*Hostile	0.003	0.003	1.104	.271	-0.003	0.010		
HPW*Exposure*Hostile	-0.001	0.0004	-1.612	.108	-0.001	0.0001	0.009	2.598

Note: HPW = hours played per week.

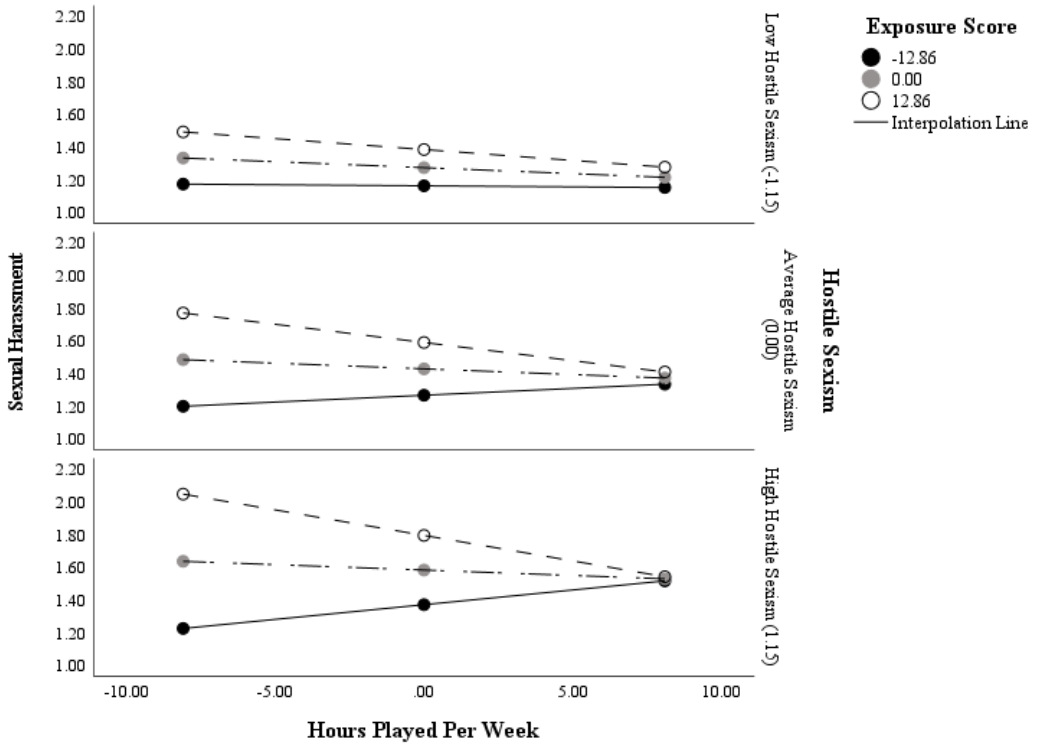

Figure 7. Visual representation of the effect of hours played on sexual harassment with exposure as a moderator and hostile sexism as the moderator to the moderator and chatting level as a covariate.

The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(8, 229) = 5.532$, $p < .001$, $R^2 = .1620$.

However, the conditional interaction between hours played, exposure, and benevolent sexism did not significantly predict sexual harassment, $b = -.0004$, $t(229) = -1.019$, $p = .309$. See Table 21 for the rest of the main effects. There were no significant conditional effects. See Figure 8 for a visual representation.

Table 21

Main Effects of Hours Played per Week on Sexual Harassment with Exposure as a Moderator and Benevolent Sexism as Moderator to the Moderator and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				5.532
Constant	1.200	0.130	9.267	p<.001	0.945	1.455		
HPW	-0.007	0.005	-1.287	.199	-0.018	0.004		
Exposure	0.014	0.004	3.972	p<.001	0.007	0.021		
Benevolent Sexism	0.065	0.041	1.595	.112	-0.015	0.145		
Chatting Level	0.082	0.039	2.078	.039	0.004	0.159		
HPW*Exposure	-0.001	0.0004	-3.294	.001	-0.002	-0.001		
HPW*Benev-olent	0.004	0.005	0.837	.403	-0.005	0.013		
Exposure*Ben-evolent	-0.007	0.003	-2.040	.043	-0.014	-0.0002		
HPW*Exposure* Benevolent	-0.0004	0.0004	-1.019	.309	-0.001	0.0004	0.004	1.039

Note: HPW = hours played per week.

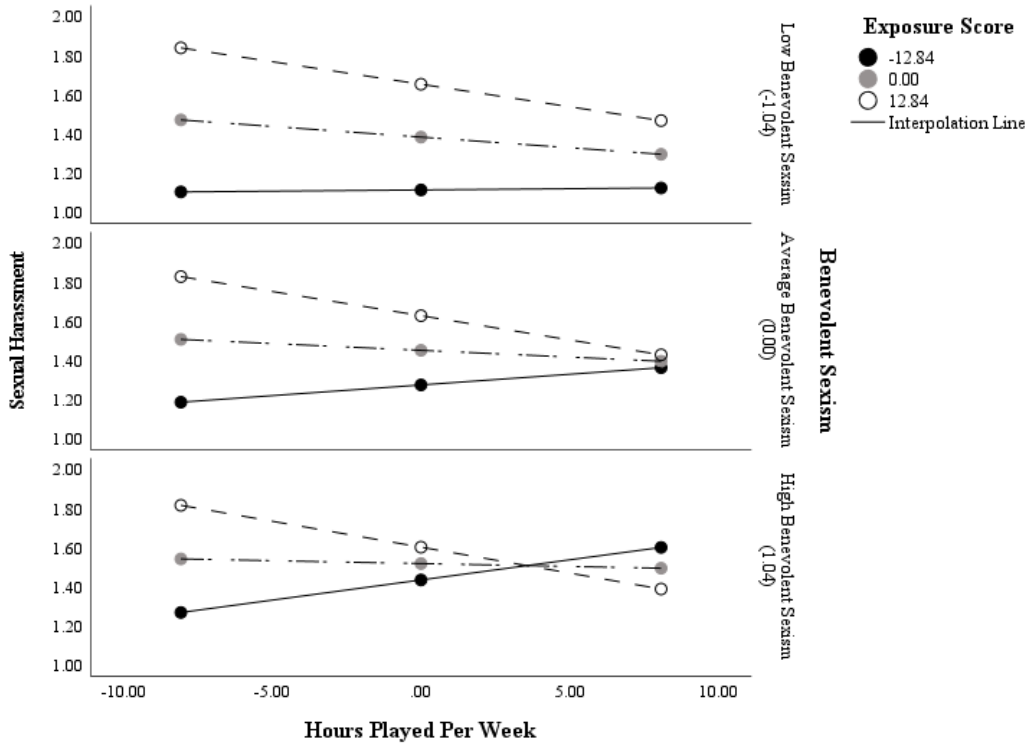

Figure 8. Visual representation of the effect of hours played on sexual harassment with exposure as a moderator and benevolent sexism as the moderator to the moderator and chatting level as a covariate.

General Harassment

The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(8, 225) = 9.853$, $p < .001$, $R^2 = .2594$.

The conditional interaction between hours played, exposure, and hostile sexism negatively and significantly predicted general harassment, $b = -.001$, $t(225) = -2.664$, $p = .008$. See Table 22 for the rest of the main effects.

Table 22

Main Effects of Hours Played per Week on General Harassment with Exposure as a Moderator and Hostile Sexism as Moderator to the Moderator and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				9.853
Constant	1.794	0.169	10.605	p<.001	1.461	2.127		
HPW	0.005	0.007	0.682	.496	-0.009	0.019		
Exposure	0.012	0.004	2.684	.008	0.003	0.021		
Hostile Sexism	0.255	0.048	5.320	p<.001	0.161	0.350		
Chatting Level	0.146	0.051	2.830	.005	0.044	0.247		
HPW*Exposure	-0.002	0.001	-3.594	p<.001	-0.003	-0.001		
HPW*Hostile	0.005	0.006	0.756	.451	-0.007	0.016		
Exposure*Hostile	0.001	0.004	0.312	.756	-0.007	0.009		
HPW*Exposure*Hostile	-0.001	0.001	-2.664	.008	-0.002	-0.0004	0.023	7.095

Note: HPW = hours played per week.

When participants were exposed to low levels of video game violence, when they also reported average or high levels of hostile sexism, the greater number of hours they played, the more general harassment they reported. When participants reported average exposure to video game violence, the number of hours played did not predict their level of general harassment. When participants were exposed to high levels of video game violence, when they also reported average or high levels of hostile sexism, the greater number of hours they played, the less general harassment they reported. See Table 23 and 24 for the rest of the conditional effects. See Figure 9 for a visual representation.

Table 23

Conditional Effects of Hours Played per Week at Values of Exposure to Video Game Violence and Hostile Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
-12.934	-1.154	0.005	0.015	0.313	.755	-0.024	0.033
-12.934	0.000	0.030	0.010	2.964	.003	0.010	0.051
-12.934	1.154	0.056	0.014	4.069	p<.001	0.029	0.083
0.000	-1.154	-0.0003	0.009	-0.037	.971	-0.018	0.018
0.000	0.000	0.005	0.007	0.682	.496	-0.009	0.019
0.000	1.154	0.010	0.011	0.943	.347	-0.011	0.031
12.934	-1.154	-0.005	0.013	-0.406	.685	-0.031	0.020
12.934	0.000	-0.021	0.010	-2.073	.039	-0.040	-0.001
12.934	1.154	-0.036	0.017	-2.183	.030	-0.068	-0.004

Table 24

Test of Conditional Effects on General Harassment of the Interaction between Hours Played per Week and Exposure at Differing Values of Hostile Sexism

Hostile Sexism	Effect	F	df1	df2	p
-1.154	-0.0004	0.228	1.000	225.000	.633
0.000	-0.002	12.917	1.000	225.000	p<.001
1.154	-0.004	18.346	1.000	225.000	p<.001

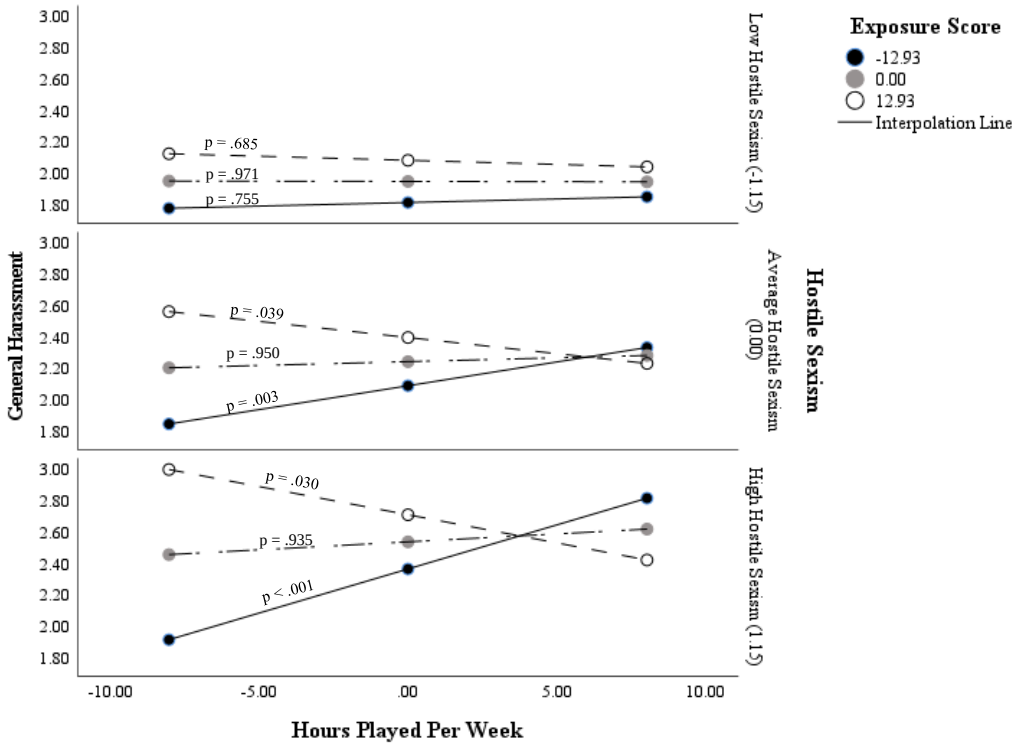

Figure 9. Visual representation of the effect of hours played on general harassment with exposure as a moderator and hostile sexism as the moderator to the moderator and chatting level as a covariate.

The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(8, 227) = 5.532$, $p < .001$, $R^2 = .2062$.

The conditional interaction between hours played, exposure, and benevolent sexism did not significantly predict general harassment, $b = -.0004$, $t(227) = -0.649$, $p = .517$. See Table 25 for the rest of the main effects. There were no significant conditional effects. See Figure 10 for a visual representation.

Table 25

Main Effects of Hours Played per Week on General Harassment with Exposure as a Moderator and Benevolent Sexism as Moderator to the Moderator and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				7.369
Constant	1.739	0.175	9.961	p<.001	1.395	2.083		
HPW	0.006	0.007	0.783	.435	-0.009	0.020		
Exposure	0.013	0.005	2.770	.006	0.004	0.022		
Benevolent Sexism	0.112	0.055	2.036	.043	0.004	0.221		
Chatting Level	0.180	0.053	3.387	.001	0.075	0.285		
HPW*Exposure	-0.002	0.001	-4.061	p<.001	-0.003	-0.001		
HPW*Benevolent	0.010	0.006	1.562	.120	-0.003	0.022		
Exposure*Benevolent	-0.012	0.005	-2.641	.009	-0.021	-0.003		
HPW*Exposure*Benevolent	-0.0004	0.001	-0.649	.517	-0.002	0.001	0.002	0.422

Note: HPW = hours played per week.

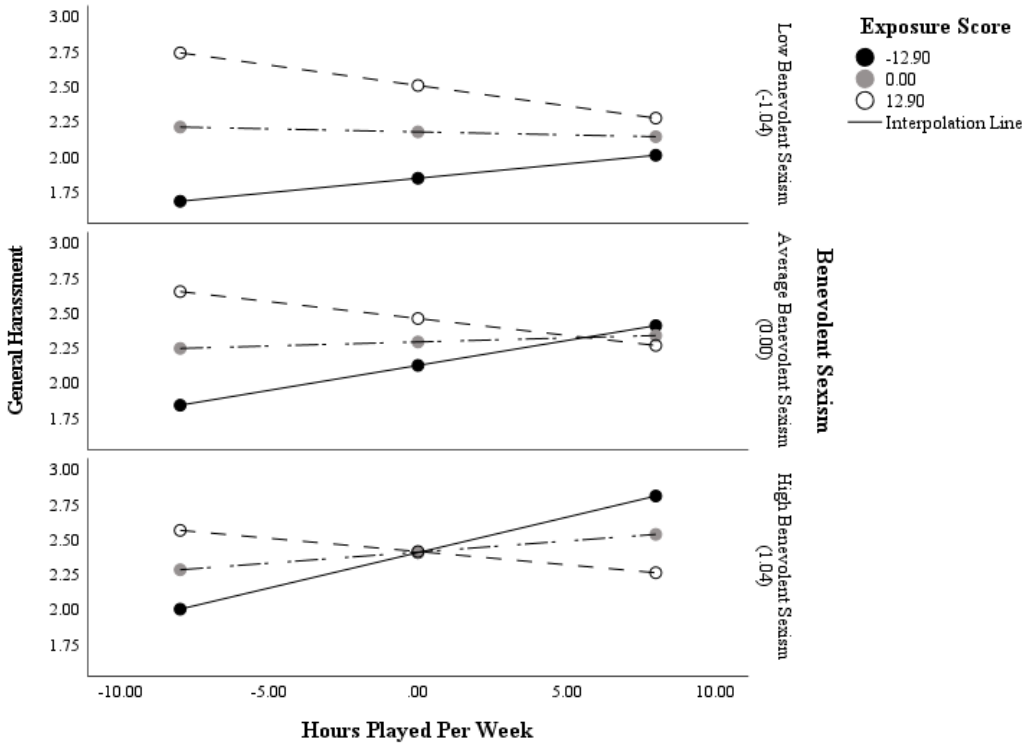

Figure 10. Visual representation of the effect of hours played on general harassment with exposure as a moderator and benevolent sexism as the moderator to the moderator and chatting level as a covariate.

Miscellaneous Exploratory Analyses

In addition to exploring more complicated moderation models, I also compared my demographics with previous demographic data regarding types of games played. One way I was able to compare my sample to previous research was to compare the types of games my participants played to that of other data. See Figure 11 for types of games participants played. Below is a comparison of my study with a PEW Research Poll (Brown, 2017). Participants could choose multiple options and some games count for

more than one genre. I should note that the PEW study included both men and women, while my study included only men. I also included many more categories than the PEW study. Overall, PEW's participants reported nearly twice as much puzzle gameplay than my participants. My participants also tended to play more role-playing games than PEW's participants.

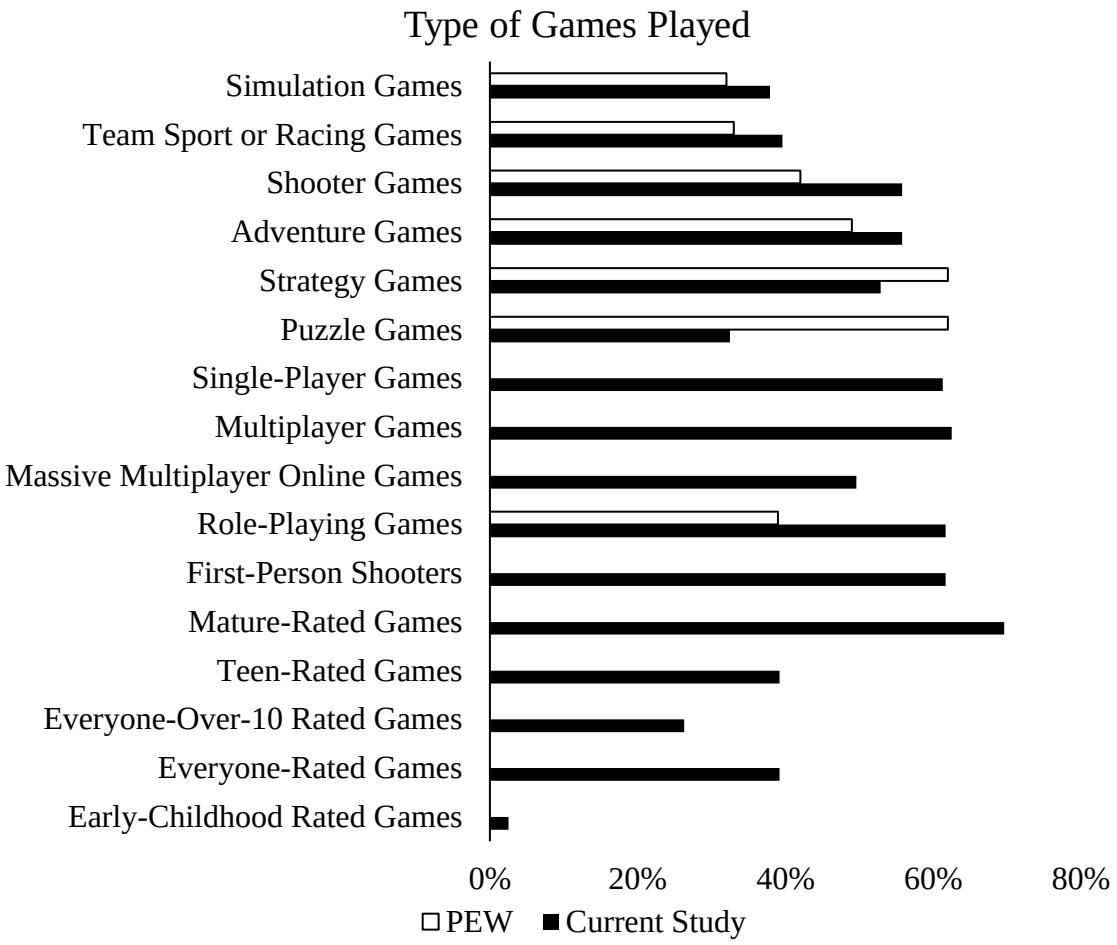

Figure 11. Types of games played. Percentages of the types of games participants played, of which they could choose more than one. Compares the current study to the PEW study where applicable.

CHAPTER #4

DISCUSSION

The present study examined the effect of video game hours played on sexual and general harassment as moderated by exposure to video game violence and sexist beliefs with online chatting as a covariate. Hours played alone was not a significant predictor of sexual or general harassment, but exposure to video game violence was a consistent significant predictor of harassment. High exposure to video game violence was generally negatively associated with sexual harassment, whereas low exposure to video game violence was generally positively associated with general harassment, with more subtle differences emerging based on low, average, and high levels of hostile and benevolent sexism. No initially predicted pattern of moderation via hostile or benevolent sexism emerged, although some specific conditions did predict harassment consistent with my hypotheses. However, these results should be viewed cautiously given the number of tests conducted and the exploratory nature of the analyses regarding moderated moderation.

Hypothesis 1 Conclusions

I hypothesized that as time spent playing video games (online offline, and composite; See Appendix C) increased, participants would report greater sexual and general harassment (See Appendix F). This hypothesis was not supported. Hours played (offline, online, composite) did not significantly nor positively correlate with either general or sexual harassment. Regression analysis further explore the hypothesized connection between hours played and harassment while also controlling for the influence of other variables. Regression results provided similar, non-significant findings. The only

exception was the effect of composite hours played, which positively predicted general harassment. Occasionally, a p-value would be non-significant but contain a confidence interval without zero, and vice versa, resulting in inconsistent regression results.

Tang and Fox (2016) found that game involvement and weekly gameplay predicted general harassment. Based on my regressions, Tang and Fox's findings partially align with the present findings, where composite hours played significantly predicted general harassment. However, the results concerning my other two hypotheses imply that the relationship between hours played and harassment is perhaps more complicated.

Hypotheses 2 and 3 Conclusions

For my second and third hypotheses, I predicted that the effects of Hypothesis 1 (the relationship between hours played and harassment) would be moderated by exposure to video game violence (See Appendix E) and hostile and benevolent sexism (See Appendix D), in that as exposure to violent video games or sexist attitudes increased, so would sexual and general harassment, with chatting online as a covariate (chatting online was not analyzed as a covariate for my first hypothesis.

Hypothesis 2: Sexual Harassment

Despite my first hypothesis being unsupported, my second hypothesis was partially supported in regards to sexual harassment. As with the regressions and correlations I performed, hours played alone did not predict sexual harassment, and neither did the interactions between hours played and either hostile sexism or benevolent sexism. Hostile sexism did significantly and positively predict sexual harassment, but

benevolent sexism did not. Chatting level significantly predicted sexual harassment when benevolent sexism was in the moderation model, but not when hostile sexism was in the model.

Conditional effects within the model revealed important distinctions among the variables. When exposure to video game violence and hostile sexism were moderators, the results did not support my hypothesis. Hours played negatively predicted sexual harassment when participants were exposed to high levels of video game violence, and at low and average levels of hostile sexism. It is possible that lack of hostile sexism acted as a buffer to sexual harassment, but more research would be needed before making such a claim with correlational data. At high levels of exposure, hours played negatively predicted sexual harassment, meaning that when exposure was high, increasing hours played predicted lower levels of sexual harassment.

When exposure and benevolent sexism were moderators, a slightly different pattern occurred. These results did not provide evidence for my hypotheses (that hours played would positively predict sexual harassment), but instead provided evidence that hours played *negatively* predicts sexual harassment at high levels of exposure regardless of level of benevolent sexism. Whereas, at high levels of exposure, increasing hostile sexism was related to a negative effect of hours played on sexual harassment. Possible reasons for this may be that by the time players play that often, they feel they are on a more equal playing field with other players and do not feel the need to lash out and sexually harass. This may also be why level of sexism did not seem to matter as much for benevolent sexism. The correlational nature of the study limits the degree of inference

from my results. I cannot conclude for certain that exposure and sexism *cause* changes in harassment.

Hypothesis 3: General harassment

My third hypothesis was also partially supported in regards to general harassment. Unlike when predicting sexual harassment, when participants had low exposure to video game violence, the more hours played, the more general harassment participants were likely to report. These results did not support my hypothesis that the relationship between time spent playing video games and general harassment would be moderated by exposure to video game violence and hostile and benevolent sexism. However, I hypothesized that high exposure would be related to higher levels of harassment. As with sexual harassment, the lack of effect regarding sexism may be that sexism is not as influential a moderator as exposure to video game violence.

At low levels of exposure, increasing hostile sexism was related to increasing positive effects of hours played on general harassment. At high levels of exposure, increasing hostile sexism was related to decreasing negative effects of hours played on harassment. Similarly, at low levels of exposure, increasing benevolent sexism was related to increasing positive effects of hours played on general harassment. At high levels of exposure, increasing benevolent sexism was related to decreasing negative effects of hours played on harassment.

I found further differences between general and sexual harassment when I observed the effect of hours played on general harassment when exposure was high. When exposure and hostile sexism were moderators, hours played significantly and

negatively predicted general harassment when exposure was high but hostile sexism was low. When exposure and benevolent sexism were moderators, a similar pattern emerged. Hours played significantly and negatively predicted general harassment when exposure was high and benevolent sexism was low.

Given that I only found significant results at the tail ends of the exposure to video game violence distribution, it may be that low exposure to video game violence affects people differently than high levels of exposure to video game violence. High levels of exposure to video game violence may help people become more skilled at the game and become less likely to commit harassment than people with low exposure. The more that people are exposed to video game violence, the less they may be affected by the effect those video games have on their behavior. It is impossible to say for sure without further study.

Exploratory Analyses Conclusions

Sexual Harassment

In my exploratory analyses, I analyzed whether sexist attitudes moderated exposure to video game violence which moderated the effect of hours played on sexual harassment. This is in contrast to when exposure and sexism were treated as separate moderators. The interaction between hours played, exposure to video violence, and hostile sexism was not significant. This suggests that sexism is not a predictive moderator of exposure when assessing the relationship between hours played and harassment.

General Harassment

Unlike with sexual harassment, the highest-level interaction of hours played, exposure, and hostile sexism significantly predicted general harassment. The results of the moderated moderation model were somewhat similar to that of the multiple moderation model with the same variables. Hours played did not predict general harassment when exposure was average, regardless of the moderating effects of sexism on exposure. Hours played significantly and positively predicted general harassment when exposure was low and when hostile sexism was average and high. Hours played significantly and negatively predicted general harassment when exposure was high and when hostile sexism was average and high.

General Model Conclusions

Previous research regarding video game play and negative outcomes (Anderson et al., 2010; Kepes et al., 2017), led me to predict that video game play and harassment would predict similar negative outcomes: that outcome being harassment as a form of aggression within the context of the video game. However, my results were not fully convergent with previous research. The present study converges with previous research suggesting a relationship between video game play and negative outcomes is not so clear-cut (Ferguson, 2007; Hilgard et al., 2017). My data perhaps better fits with previous work by Ferguson et al. (2020) concluding that results of video game studies, especially the studies that suggest causal effects of video game play on aggression, should be interpreted more cautiously. Also, previous meta-analyses, even those supported by the American Psychological Association (APA) and the APA Task Force on Violent Media

(APA, 2005; APA, 2015a; APA, 2015b) include confirmation bias and non-best practices, even though said research purports the existence of a clear-cut causal link between video game play and aggression (Ferguson et al., 2020). Finding a causal link between the two would be very difficult and would require more nuanced variables like exposure or trait sexism to make full sense of the obtained results.

Because of the differences in my results between general and sexual harassment, generally speaking, there could be something different about the mechanisms that cause sexual harassment (sexual harassment may have a cause more related to sexism or threats of physical violence) than those that cause general harassment. For example, sexual harassment may depend on who is the victim of the harassment, and my study did not collect data on that subject.

Furthermore, exposure and sexism seem to react differently with high and low levels of exposure when predicting harassment outcomes. The differences in high and low levels of exposure to video game violence may have to do with the type of people who expose themselves to a lot of video game violence versus those who expose themselves very little. Average exposure, regardless of moderation model (main analyses) or moderated moderation model (exploratory analyses) was not beneficial in predicting harassment outcomes. It is possible that one reason behind the negative t-values at high levels of exposure is that the more often people play the video game (and therefore the more they are exposed to it) is that at higher levels of play, a person might be more seen as part of the community so there could be less harassment. Another possibility is that the more often people engage with and expose themselves to violent

video games, the more engaged and focused they become with the game, which may make them less likely to engage in harassment. This is opposed to people who are not as exposed to video game violence. Even if those people play a lot, they are more likely to harass. In order to make sure, more research would have to be done to find out if the increase in video game play is with highly violent games or if the increase in hours played and harassment is separate from their exposure to video game violence, or if their offline violent video game play is affecting their total hours played and in-game harassment. I did not ask participants which video games made up the most amount of the hours they played per week, so asking participants to parse out what games they play during their weekly hours could help researchers make more sense of their results regarding video game violence.

Limitations

There were several limitations with the present study. I originally recruited 600 participants to ensure a large participant pool and sufficient power, but a large portion of participants did not pass the attention check (n = 151), which I used as exclusion criteria. Altogether, 25% of my participants failed to pass the attention check. I formatted the attention check to blend in with the rest of the questionnaire (See Appendix G). I might have lost fewer participants if I had three attention checks and allowed them to miss one. In future research, I should account for the high level of failed attention checks by recruiting more participants. I still think the attention check is necessary to eliminate people who were not paying attention during the study. I kept those who failed the attention check out of the data because I wanted to make sure my data included

participants who took their time with the survey. The number of seconds participants who failed the attention check took to finish the survey varied widely, from under 120 seconds to over 1000 seconds. Therefore, it was not just participants who were going too fast. Even participants who took a long time may have been doing something else simultaneously and not been paying attention to my questionnaire.

I also did not expect so many participants to not play online (39.5%). When studying online gameplay in the future, researchers should also account for participant loss due players who game exclusively offline. It is also possible that people are more likely to harass strangers rather than their friends, whether those friends are online or face-to-face. This may also be a reason for my inconsistent findings. Between offline players and failed attention checks, I had to exclude nearly half of my recruited participants. To achieve significant statistical power, I would need to increase my sample by at least 50%, or more when recruiting gamers.

To increase my statistical power, and because men are the majority of harassers, I limited my study only to men. By excluding women, I was not able to gain valuable information on female gamers, who are very under-researched. I am also unable to speak to how harassment affects women directly as it is unknown with whom participants were chatting in the present study. For example, participants may have been less likely to sexually harass if they were speaking with same-sex players, and that may account for the differences in results between general and sexual harassment. Different patterns likely would have emerged if I controlled for types of people with whom participants chatted. A "victim" category would be crucial to parsing out reasons for harassment, both reported

and inferred. There may be a disconnect between harassment and "fun:" comments that are considered part of the gaming culture, which also leads to the issues with self-reported behavior and under-reporting of harassment behaviors.

Another limitation to my study is that while exposure is an informative variable, it does not provide data on which participants are more susceptible to video game violence. People play many types of different games. The exposure to video game violence scale has limitations, in that it only includes the five most-played games, I still think it is more informational than just studying participants' experiences on a single game, which does not account for the plethora of different games people play. Some people may have some sort of buffer that prevents the exposure to video game violence from negatively affecting their interactions with other players.

Future Directions and Implications

I used scales in my study to account for exposure to video game violence, sexism, and harassment. Exposure and harassment would be very difficult to measure without asking the participant directly. There were some differences among the top five games participants listed, some games being non-violent and others violent. The more important differences were in what different participants considered violent versus non-violent. For example, some participants considered sports games non-violent (a score of 1), but others considered sports games a little violent (a score of 4). There are other ways in which to measure harassment, as participants are likely to have social desirability when asked to admit harassing behavior. Instead of using a scale, researchers could monitor players online by recording part of their gaming sessions over a long period of time. Researchers

could then code the data they find and record actual harassing behaviors. Doing so would also provide more concrete evidence for types of harassment behavior during online play. Recording a participant's naturally harassing behavior would provide a better measure of harassment than relying on participant answers alone.

My study did not provide evidence for causality. If an experiment began by having participants play a violent or sexualized video game then make a choice regarding harassment, this would provide evidence for causality. On its own, hours played was not a significant predictor of either general or sexual harassment, except for when it was a main effect predicting general harassment when exposure and sexism were moderators (which approached non-significance). A more promising candidate for establishing causality would be one of the moderating variables, although future researchers should be aware that hours played interacts with exposure to predict harassment, so it should not be discarded in in its entirety. Establishing causality would be difficult, but that would provide researchers with a more concrete approach to lowering harassment.

More research should be conducted regarding exposure to video game violence because even though negative *t*-values appeared at high exposure, there is an underlying reason for this, given the results were consistent across models. Researchers should determine which games make up the hours people play each week. This would give researchers more insight on which hours (violent vs non-violent gameplay hours) predict harassment. In regards to the General Aggression Model, competitive online games would provide more opportunity for harassment. However, based on my results, increased gameplay with increased exposure to video game violence does not necessarily

result in increased harassment. Rather, my results suggest the opposite. Hours played negatively predicted sexual harassment when participants were exposed to high levels of video game violence. When participants had low exposure to video game violence, the more hours played, the more general harassment participants were likely to report. For the General Aggression Model, it may be that sexual aggression has different causes than general aggression, which may have led to my differing results regarding sexual and general harassment. Having participants report with whom they chat would help solve this mystery. Observing actual online gameplay would also help researchers interpret gamers' natural conversations. Harassment affects many people, especially women and minorities (i.e., ethnic, sexual, disabled), in gaming communities. Rather than have people self-report being harassed, researchers could examine gamer livestreams where cameras record verbal abuse and code interactions between online players.

More research would also be useful in regard to specific games played and the demographic makeup of their players; some games have more female players than male players and vice versa (Yee, 2017). Researchers should know who participants are harassing, whether they are the same type of person (i.e., white male) or if they are different, such as a woman and/or a minority. Players may be more likely to harass others when interacting with someone they perceive as different from the type of person who generally plays that particular game. For example, male players could be more likely to harass female players when playing in a male-dominated game as opposed to one that is more evenly distributed across genders. Research involving female and minority gamers will be difficult, especially because many female gamers hide their feminine identity

during play (McLean & Griffiths, 2018), but it will be worthwhile. Finding women and minority gamers to participate in gaming research will be difficult, even though these groups are a growing gamer demographic (Clement, 2021b); Yee, 2017) because of fear in how they will be treated.

Games that promote masculine norms encourage similar behaviors from their players because challenging masculine norms often results in personal attack (McInroy & Mishna, 2017). Men dominate in gaming communities and in games, as women are rarely featured (Sarkeesian & Petit, 2019). Challenging masculine norms and masculine culture in gaming is instrumental in creating a welcoming community for people of all types, even though that challenge will open the researcher up to the same harassment female and minority gamers face. Future research should include information on who is being harassed and take into account data from both the perpetrators and victims of harassment. Determining who is being harassed will provide insight into when harassment occurs, as it does not occur all the time.

My results have additional implications for current research. My research began by analyzing harassment through the General Aggression Model (GAM; Alan et al., 2018; DeWall et al., 2011). Previous research suggested that a person's repeated exposure to violence can desensitize them to committing aggressive acts (Gentile et al., 2016) and that competitive games, such as online games, tend to increase hostility in players (Ewell, 2016). If someone cannot reappraise the aggression they feel during or after playing a videogame, they would be more likely to act aggressively, perhaps by threatening or harassing others. However, my results suggest that people with increased

exposure to video game violence tend not to harass other players. Rather, people with low exposure to video game violence tend to harass. Those with high exposure to video game violence, they may be able to better reappraise the aggression they feel from playing, whereas someone with less exposure may not have as much practice reappraising their aggressive feelings during gameplay. Because my research only included men, these implications would be more implicative for men's aggressive responses within the GAM. Unlike what previous research has found, my results suggest a positive conclusion, that more exposure to video game violence correlates with lower levels of harassment.

Positive examples in video game research generally explain how playing prosocial videogames results in positive outcomes (Greitemeyer & Mügge, 2014). Generally, these positive outcomes are a decrease in aggression-related measures (Greitemeyer & Mügge, 2014). Anderson et al. (2010) reported that playing violent videogames increases short-term aggression and reduces prosocial behavior, such as helping behaviors and interference with empathic thoughts and emotions (Anderson et al., 2010). Aggression was quantified in these studies by self-report measures of hostility, trait-anger, analysis of physiological arousal (i.e., heart rate), desensitization (i.e., reduction in negative emotional responses to violence), and decreased self-reported empathy. Prosocial behavior was often measured by whether or not participants engaged in prosocial activities like donating items or money, helping someone with a task, or helping a staged victim, as well as self-reports of prosocial behavior (Anderson et al., 2010). However, my results imply that there are other positive outcomes to video game play that do not necessarily come from prosocial video games. Although not necessarily

prosocial, my results imply that greater exposure to video game violence relates to lower levels of harassment, which is a positive outcome of video game play. Because my results are correlational, I cannot assert more exposure to video game violence causes less harassment, however, my results imply that prosocial outcomes like helping and empathy are not the only positive outcomes related to video game play. In addition, my results also imply that violent video game play does not necessarily result in all negative outcomes. Although more research would be needed to determine cause and the validity of these implications, my results broaden ideas for further research on the positive effects of video game play.

My results consistently show a pattern in regards to how exposure and sexism interact to predict harassment. High exposure tended to negatively predict general and sexual harassment whereas low exposure tended to positively predict general harassment. By further breaking down exposure and harassment variables, future research could explain these seemingly bizarre results, especially if experimental rather than correlational methods were used. Few studies have looked at online messaging and harassment within games. Games by themselves should not be enough – individual differences is where future literature needs to go, especially since the relationship between violent video game play and negative outcomes are not as clear as they once seemed.

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APPENDIX A

CONSENT FORM

CONSENT FORM FOR PARTICIPATION

OF HUMAN PARTICIPANTS IN RESEARCH

UNIVERSITY OF NORTHERN IOWA

Your responses are anonymous, so please answer honestly and openly.

1. Purpose: The purpose of this experiment is to better understand the gaming community and non-gamers.

2. Procedure: You will be given a questionnaire about what type of video games (if any) you play and various personality measures. You will have the option not to specify any of this information, besides age (you have to be at least 18 to participate).

3. Time Required: Participation is expected to take under 30 minutes.

4. Risks: There will be no immediate risks to participants other than the time and effort required to participate in the study. No long-term risks are foreseen. However, you will be answering potentially sensitive information that may cause distress. You have the right to leave the study at any time without penalty or repercussions.

5. Benefits: You will be paid 50 cents for your participation.

6. Your rights as a participant:

The data from this study could possibly be used for subsequent studies regarding gamers and non-gamers, the results of which may be presented at relevant conferences and/or submitted for publication.

Your IP addresses are automatically collected through Qualtrics, but these will be deleted after our data is screened. We will also need to collect your worker numbers. These will be deleted as soon as possible after you receive credit for your participation. Data or summarized results will not be released in any way that could identify you.

Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

At the end of the study, you have the right to a complete explanation (debriefing) of the study.

You have the right to refuse or withdraw from the study at any time. Your participation is completely voluntary. You are free to withdraw from participation at any time or to choose not to participate at all, and that by doing so you will not be penalized or lose benefits to which you are otherwise entitled.

This study has been approved by the University of Northern Iowa institutional review board.

7. If you have questions after participating, please ask me or contact:

Chelsea Washburn, Researcher
Nicholas Schwab, Faculty Sponsor
Department of Psychology, University of Northern Iowa
video.game.survey.123@gmail.com

Anita Gordon
Director, Research Ethics, University of Northern Iowa
East Bartlett 213
anita.gordon@uni.edu
(319)273-6148

THANK YOU for participating in my study.

By consenting below, you assure that you are at least 18 years of age.

YES, I consent to participating in this study.

NO, I do not consent to participating in this study. You will be taken to the end of the study.

* The study's original title was "Video Games," but due to a lack of participants, I changed it to "Online Behavior and Personality."

APPENDIX B

DEBRIEFING

Effects of Exposure to Video Games on Sexual Harassment

Note from the Researcher and Purpose of Study

Video game play is a very popular activity performed by millions of people around the world. The gaming community is vast and diverse, and video games offer a unique way to tell stories and build communities of gamers. However, the online nature of many video games leaves many people open to harassment. Harassment can occur for many reasons, so the purpose of this research is to find out how prevalent harassment is and what can help lessen harassment. However, just because we expect certain trends based on previous research, that does not mean harassment behavior is indicative of all gamers or that gamers are bad people. And even if a certain group is more likely to harass others, that does not necessarily mean they will. The purpose of this study is not to attack anyone's character, but to provide better information on the topic to inform future research.

Current Study

The results of this study should be able to give more information on the link between the amount of video game play and sexual and general harassment perpetration. The moderators we will test (exposure to video game violence, hostile and benevolent sexism, and online chatting) will provide us with better information on how to best reduce the issue of harassment in gaming. In other words, we expect that the more a person plays

violent games, holds sexist attitudes, and chats online, the more likely they will be to harass other players.

C**onfidentiality**

The information gathered was recorded in an anonymous form. Data or summarized results will not be released in any way that could identify you.

Contact Information:

Chelsea Washburn, Researcher
Nicholas Schwab, Faculty Sponsor
Department of Psychology, University of Northern Iowa
video.game.survey.123@gmail.com

If you have any questions about your treatment as a participant, please contact:

Anita Gordon
Director, Research Ethics, University of Northern Iowa
East Bartlett 213
anita.gordon@uni.edu
(319)273-6148

Thank you for participating in my study.

APPENDIX C

ADDITIONAL QUESTIONS

1. Age _____

2. Race/Ethnicity (select all that apply):
   - White/Caucasian
   - Black/African-American
   - Asian
   - Middle-Eastern
   - Indian
   - Native American/Alaskan Native
   - Hispanic/Latino
   - Other: _____
   - Prefer not to say

3. How many hours per week, if any, do you generally play video games?

4. What type of games do you usually play (select all that apply)?
   - Early-Childhood Rated Games
   - Everyone-Rated Games
   - Everyone-Over-10 Rated Games
   - Teen-Rated Games
   - Mature-Rated Games
   - First-Person Shooters
   - Role Playing Games (RPGs)
   - Massive Multiplayer Online Games (MMOs)
   - Multiplayer Games
   - Single-Player Games
   - Puzzle Games
   - Strategy Games
   - Adventure Games
   - Shooter Games
   - Team Sport or Racing Games
   - Simulation Games
   - None
   - Other: _____

5. Do you generally prefer non-violent or violent video games?

1	2	3	4	5	6	7	8	9	10
Prefer no violence at all									Prefer very violent games

6. To what extent do you see yourself a gamer?

1	2	3	4	5	6	7	8	9	10
Not a gamer at all									An avid gamer

7. How many hours do you play video games offline (not on the internet)?

8. How many hours per week, if any, do you play MMOs or other video games online?

9. How often do you chat with other players when playing video games online?

1	2	3	4	5
Never				Always

10. Are you a citizen of the United States? Y N

APPENDIX D

AMBIVALENT SEXISM INVENTORY

Below is a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the following scale: 0 = disagree strongly; 1 = disagree somewhat; 2 = disagree slightly; 3 = agree slightly; 4 = agree somewhat; 5 = agree strongly.

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman. (B)
2. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality." (H)
3. In a disaster, women ought not necessarily to be rescued before men. (B-Reversed)
4. Most women interpret innocent remarks or acts as being sexist. (H)
5. Women are too easily offended. (H)
6. People are often truly happy in life without being romantically involved with a member of the other sex. (B- Reversed)
7. Feminists are not seeking for women to have more power than men. (H-Reversed)
8. Many women have a quality of purity that few men possess. (B)
9. Women should be cherished and protected by men. (B)
10. Most women fail to appreciate fully all that men do for them. (H)

11. Women seek to gain power by getting control over men. (H)
12. Every man ought to have a woman whom he adores. (B)
13. Men are complete without women. (B- Reversed)
14. Women exaggerate problems they have at work. (H)
15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash. (H)
16. When women lose to men in a fair competition, they typically complain about being discriminated against. (H)
17. A good woman should be set on a pedestal by her man. (B)
18. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances. (H- Reversed)
19. Women, compared to men, tend to have a superior moral sensibility. (B)
20. Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives. (B)
21. Feminists are making entirely reasonable demands of men. (H- Reversed)
22. Women, as compared to men, tend to have a more refined sense of culture and good taste. (B)

Key: B = Benevolent sexism item, H = Hostile sexism item

APPENDIX E

GAME VIOLENCE QUESTIONNAIRE

Instructions: Pease think of the five video games that you have played for the greatest amount of time from when you were in 7th grade until the present. Include computer, console/TV, and arcade games. Please write down the titles of these games on the blank lines below. If you have never played a video game in your life, please check here and go on to the next questionnaire.

1) Title of your "most played" game:

_____.

2) Title of your "2nd most played" game:

_____.

3) Title of your "3rd most played" game:

_____.

4) Title of your "4th most played" game:

_____.

5) Title of your "5th most played" game:

_____.

Now, please rate each game by answering the questions that follow.

1). For the following items, rate the game you listed as your "most played" game:

a) In recent months, how often have you played this game?

1 2 3 4 5 6 7

Rarely Occasionally Often

b) How violent is the content of this game?

1 2 3 4 5 6 7

Little or No Extremely

Violent Content Violent Content

c) How bloody/gory are the graphics of this game?

1 2 3 4 5 6 7

Little or No Extremely

Blood & Gore Bloody & Gory

d) Which of the following categories best describes this game?

Check all that apply. __ Education __Sports __ Fantasy

__ Fighting with hands/feet __ Fighting with Weapons __ Skill

2). For the following items, rate the game you listed as your "2nd most played" game:

a) In recent months, how often have you played this game?

1 2 3 4 5 6 7

Rarely Occasionally Often

b) How violent is the content of this game?

1 2 3 4 5 6 7

Little or No Extremely

Violent Content Violent Content

c) How bloody/gory are the graphics of this game?

1 2 3 4 5 6 7

Little or No Extremely

Blood & Gore Bloody & Gory

d) Which of the following categories best describes this game?

Check all that apply. __ Education __Sports __ Fantasy

__ Fighting with hands/feet __ Fighting with Weapons __ Skill

3). For the following items, rate the game you listed as your " 3rd most played" game:

a) In recent months, how often have you played this game?

1 2 3 4 5 6 7

Rarely Occasionally Often

b) How violent is the content of this game?

1 2 3 4 5 6 7

Little or No Extremely

Violent Content Violent Content

c) How bloody/gory are the graphics of this game?

1 2 3 4 5 6 7

Little or No Extremely

Blood & Gore Bloody & Gory

d) Which of the following categories best describes this game?

Check all that apply. __ Education __Sports __ Fantasy

__ Fighting with hands/feet __ Fighting with Weapons __ Skill

4). For the following items, rate the game you listed as your "4th most played" game:

a) In recent months, how often have you played this game?

1 2 3 4 5 6 7

Rarely Occasionally Often

b) How violent is the content of this game?

1 2 3 4 5 6 7

Little or No Extremely

Violent Content Violent Content

c) How bloody/gory are the graphics of this game?

1 2 3 4 5 6 7

Little or No Extremely

Blood & Gore Bloody & Gory

d) Which of the following categories best describes this game?

Check all that apply. __ Education __Sports __ Fantasy

__ Fighting with hands/feet __ Fighting with Weapons __ Skill

5). For the following items, rate the game you listed as your "5th most played" game:

a) In recent months, how often have you played this game?

1 2 3 4 5 6 7

Rarely Occasionally Often

b) How violent is the content of this game?

1 2 3 4 5 6 7

Little or No Extremely

Violent Content Violent Content

c) How bloody/gory are the graphics of this game?

1 2 3 4 5 6 7

Little or No Extremely

Blood & Gore Bloody & Gory

d) Which of the following categories best describes this game?

Check all that apply. __ Education __Sports __ Fantasy __ Fighting with hands/feet __ Fighting with Weapons __ Skill

APPENDIX F

GENERAL AND SEXUAL HARASSMENT

Please answer the following in terms of your video game play and interactions with other players.

1 2 3 4 5

Never Always

General Harassment

1. How often do you say curse or swear words toward another player?
2. How often do you make comments about intelligence?
3. How often do you say general insults?
4. How often do you make comment about others' abilities to play?
5. How often do you ask others to leave the game?

Sexual Harassment

1. How often do you make sexist comments or insults?
2. How often do you make comments about appearance or weight?
3. How often do you doubt their [a player's] motivations for playing video games because of their gender?
4. How often do you express unsolicited liking or affection toward someone?
5. How often do you make a rape joke or threatened to rape?

APPENDIX G

ATTENTION CHECK

Some gamers try and buy the newest game systems as quickly as possible. Some people buy multiple game systems. To ensure you are paying attention to the question, please select other and enter Sega Wii as your answer. You do not have to answer the question below.

Which game consoles have you bought within the last year?

- PlayStation
- PlayStation 2
- PlayStation 3
- PlayStation 4
- Xbox
- Xbox 360
- Xbox One
- Nintendo Wii U
- Nintendo Switch
- Nintendo 64
- Nintendo GameCube
- Sega Dreamcast
- None
- Other: _____

APPENDIX H

COLLINEARITY DIAGNOSTICS

Table 26

Collinearity Statistics with General Harassment as a Dependent Variable (5000 Bootstrapped Samples, 95% Confidence Intervals)

Model	Unstand-ardized B	Unstand-ardized SE	Standardized Coefficients Beta	t	Sig.	Toler-ance	VIF
Exposure Score	0.008	0.005	0.117	1.780	0.076	0.822	1.217
Hostile Sexism	0.212	0.050	0.268	4.224	<.001	0.890	1.123
Benevolent Sexism	0.052	0.057	0.060	0.922	0.358	0.856	1.168
Chatting Level	0.185	0.055	0.222	3.370	<.001	0.819	1.220
Hours Played per Week Offline	-0.011	0.018	-0.060	-0.599	0.550	0.359	2.785
Hours Played per Week Online	-0.020	0.019	-0.129	-1.038	0.301	0.231	4.320
Hours Played per Week	0.021	0.018	0.187	1.187	0.237	0.144	6.966

Table 27

Collinearity Statistics with Sexual Harassment as a Dependent Variable (5000 Bootstrapped Samples, 95% Confidence Intervals)

Model	Unstand-ardized B	Unstand-ardized SE	Standardized Coefficients Beta	t	Sig.	Tolerance	VIF
Exposure Score	0.011	0.003	0.219	3.266	0.001	0.822	1.217
Hostile Sexism	0.116	0.037	0.203	3.154	0.002	0.890	1.123
Benevolent Sexism	0.031	0.042	0.049	0.738	0.461	0.856	1.168
Chatting Level	0.100	0.040	0.168	2.500	0.013	0.819	1.220
Hours Played per Week Offline	0.033	0.013	0.253	2.495	0.013	0.359	2.785
Hours Played per Week Online	0.018	0.014	0.158	1.248	0.213	0.231	4.320
Hours Played per Week	-0.029	0.013	-0.356	-2.217	0.028	0.144	6.966

Table 28

Collinearity Diagnostics with General Harassment as a Dependent Variable (5000 Bootstrapped Samples, 95% Confidence Intervals)

Dimension	Eigenvalue	Condition Index	Constant	Exposure Score	Hostile Sexism	Benevolent Sexism	Chatting Level	Hours Played per Week Offline	Hours Played per Week Online	Hours Played per Week
1	6.538	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.625	3.235	0.000	0.010	0.020	0.010	0.010	0.110	0.020	0.020
3	0.434	3.880	0.000	0.010	0.000	0.000	0.000	0.200	0.120	0.000
4	0.180	6.032	0.010	0.790	0.080	0.020	0.000	0.030	0.000	0.000
5	0.089	8.560	0.010	0.150	0.250	0.010	0.700	0.000	0.020	0.000
6	0.069	9.701	0.010	0.000	0.580	0.560	0.100	0.000	0.020	0.000
7	0.034	13.942	0.930	0.000	0.070	0.350	0.180	0.070	0.040	0.020
8	0.031	14.581	0.040	0.040	0.000	0.040	0.000	0.600	0.780	0.960

Table 29

Collinearity Diagnostics with Sexual Harassment as a Dependent Variable (5000 Bootstrapped Samples, 95% Confidence Intervals)

Dimension	Eigenvalue	Condition Index	Constant	Exposure Score	Hostile Sexism	Benevolent Sexism	Chatting Level	Hours Played per Week Offline	Hours Played per Week Online	Hours Played per Week
1	6.538	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.625	3.235	0.000	0.010	0.020	0.010	0.010	0.110	0.020	0.020
3	0.434	3.880	0.000	0.010	0.000	0.000	0.000	0.200	0.120	0.000
4	0.180	6.032	0.010	0.790	0.080	0.020	0.000	0.030	0.000	0.000
5	0.089	8.560	0.010	0.150	0.250	0.010	0.700	0.000	0.020	0.000
6	0.069	9.701	0.010	0.000	0.580	0.560	0.100	0.000	0.020	0.000
7	0.034	13.942	0.930	0.000	0.070	0.350	0.180	0.070	0.040	0.020
8	0.031	14.581	0.040	0.040	0.000	0.040	0.000	0.600	0.780	0.960

APPENDIX I

HOURS PLAYED ONLINE AS A PREDICTOR

Sexual Harassment

Effect of hours played online on sexual harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(6,230) = 7.740$, $p < .001$, $R^2 = .1680$.

Hostile sexism $b = .119$, $t(230) = 3.403$, $p = .001$ and chatting level $b = .080$, $t(230) = 2.028$, $p = .044$ positively and significantly predicted sexual harassment. Exposure $b = -.011$, $t(230) = 3.422$, $p = .001$ and the interaction between hours played online and exposure $b = -.001$, $t(230) = -2.448$, $p = .015$ negatively and significantly predicted sexual harassment. See Table 30 for the rest of the main effects.

Table 30

Main Effects of Hours Played per Week Online on Sexual Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				7.740
Constant	1.167	0.128	9.111	p<.001	0.915	1.420		
HPW Online	-0.011	0.007	-1.502	.135	-0.024	0.003		
Exposure	0.011	0.003	3.422	.001	0.005	0.018		
Hostile Sexism	0.119	0.035	3.403	.001	0.050	0.187		
Chatting Level	0.080	0.039	2.028	.044	0.002	0.157		
HPW Online*Exposure	-0.001	0.001	-2.448	.015	-0.003	-0.003	0.022	5.993
HPW Online *Hostile	0.006	0.006	0.962	.337	-0.007	-0.007	0.003	0.925
Exposure*Hostile				.026			0.027	3.695

Note: HPW = hours played per week.

When participants reported low to average exposure to video game violence, the number of hours played online did not predict their level of sexual harassment, and this

pattern held at high, average, and low levels of reported hostile sexism. However, when participants were exposed to high levels of video game violence, increased hours of online play were negatively associated with reported sexual harassment. High levels of exposure moderated hours of online play on sexual harassment only at low to average levels of hostile sexism. See Table 31 for the rest of the conditional effects. See Figure 12 for a visual representation.

Table 31

Conditional Effects of Hours Played per Week Online at Values of Exposure to Video Game Violence and Hostile Sexism on Sexual Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
-12.856	-1.149	0.0001	0.013	0.004	.997	-0.026	0.027
-12.856	0.000	0.007	0.010	0.712	.477	-0.013	0.027
-12.856	1.149	0.014	0.012	1.239	.217	-0.008	0.037
0.000	-1.149	-0.018	0.011	-1.624	.106	-0.039	0.004
0.000	0.000	-0.011	0.007	-1.502	.135	-0.024	0.003
0.000	1.149	-0.003	0.010	-0.352	.725	-0.022	0.015
12.856	-1.149	-0.035	0.013	-2.798	.006	-0.060	-0.010
12.856	0.000	-0.028	0.010	-2.822	.005	-0.048	-0.009
12.856	1.149	-0.021	0.012	-1.715	.088	-0.045	0.003

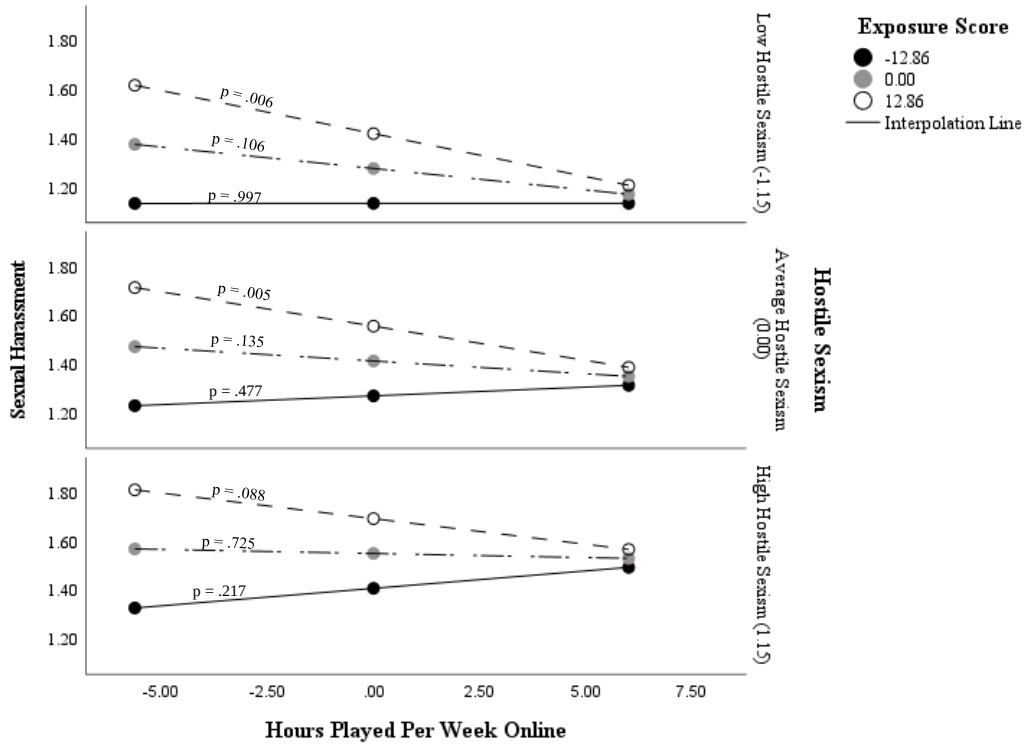

Figure 12. Visual representation of the effect of hours played online on sexual harassment with exposure and hostile sexism as moderators and chatting level as a covariate.

Effect of hours played online on sexual harassment with exposure and benevolent sexism as moderators. The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,231) = 6.082$, $p < .001$, $R^2 = .1364$.

Only exposure $b = .011$, $t(231) = 3.176$, $p = .002$ and chatting level $b = .088$, $t(231) = 2.165$, $p = .031$ significantly and positively predicted sexual harassment. The interaction between hours played online and exposure $b = -.002$, $t(231) = -2.659$, $p = .008$ significantly and negatively predicted sexual harassment. See Table 32 for the rest of the main effects.

Table 32

Main Effects of Hours Played per Week Online on Sexual Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				6.082
Constant	1.145	0.131	8.735	p<.001	0.887	1.403		
HPW Online	-0.008	0.007	-1.070	.286	-0.022	0.006		
Exposure	0.011	0.003	3.176	.002	0.004	0.017		
Benevolent Sexism	0.065	0.040	1.614	.108	-0.014	0.145		
Chatting Level	0.088	0.040	2.165	.031	0.008	0.167		
HPW Online*Exposure	-0.002	0.001	-2.659	.008	-0.003	-0.0004	0.026	7.072
HPW Online*Benevolent	0.004	0.006	0.585	.560	-0.009	0.016	0.001	0.342
Exposure*Benevolent				.025			0.028	3.763

Note: HPW = hours played per week.

When participants reported low to average exposure to video game violence, the number of hours played online did not predict their level of sexual harassment, and this pattern held at high, average, and low levels of reported benevolent sexism. However, when participants were exposed to high levels of video game violence, increased hours of online play were negatively associated with reported sexual harassment. High levels of exposure moderated hours of online play on sexual harassment only at low to average levels of benevolent sexism. See Table 33 for the rest of the conditional effects. See Figure 13 for a visual representation.

Table 33

Conditional Effects of Hours Played per Week Online at Values of Exposure to Video Game Violence and Benevolent Sexism on Sexual Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Benevolent Sexism	Effect	SE	t	p	LLCI	ULCI
-12.840	-1.035	0.008	0.012	0.673	.502	-0.015	0.031
-12.840	0.000	0.012	0.010	1.145	.253	-0.008	0.032
-12.840	1.035	0.015	0.012	1.265	.207	-0.009	0.039
0.000	-1.035	-0.011	0.009	-1.235	.218	-0.030	0.007
0.000	0.000	-0.008	0.007	-1.070	.286	-0.022	0.006
0.000	1.035	-0.004	0.010	-0.399	.690	-0.024	0.016
12.840	-1.035	-0.031	0.012	-2.647	.009	-0.054	-0.008
12.840	0.000	-0.027	0.010	-2.645	.009	-0.047	-0.007
12.840	1.035	-0.023	0.012	-1.876	.062	-0.048	0.001

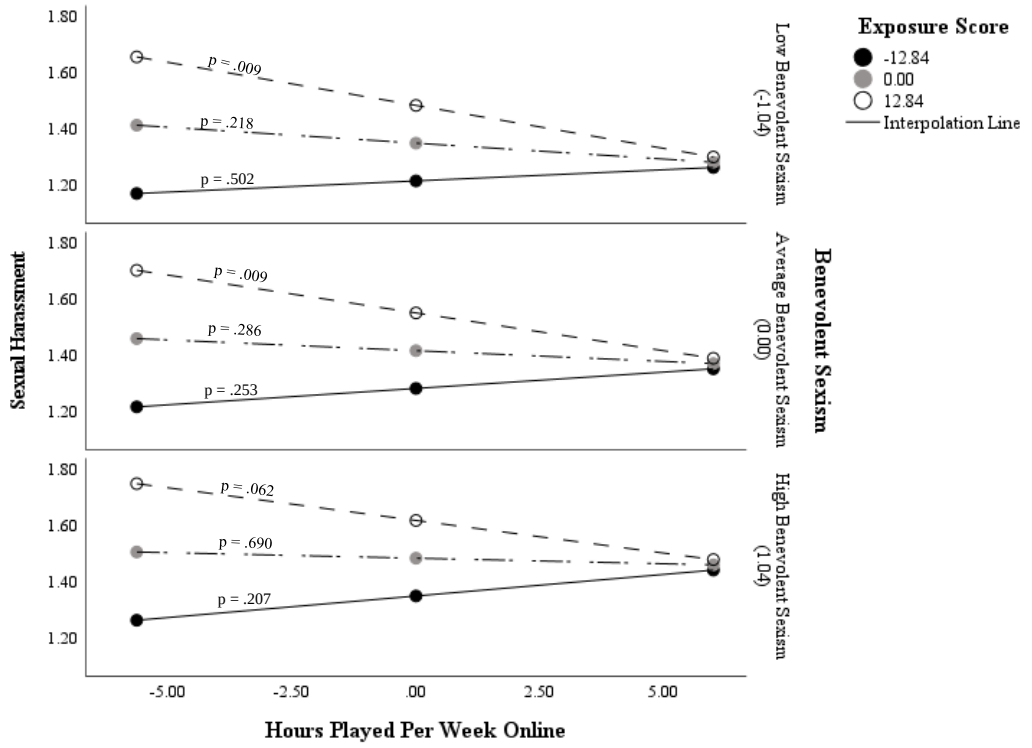

Figure 13. Visual representation of the effect of hours played online on sexual harassment with exposure and benevolent sexism as moderators and chatting level as a covariate.

General Harassment

Effect of hours played online on general harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(6,227) = 10.471$, $p < .001$, $R^2 = .2168$.

Exposure $b = .011$, $t(227) = 2.432$, $p = .002$, hostile sexism, $b = .217$, $t(227) = 4.606$, $p < .001$, and chatting level $b = .168$, $t(227) = 3.174$, $p = .002$ significantly and positively predicted general harassment. The interaction between hours played online and

exposure b = -.002, $t(227)$ = -2.707, p = .007 significantly and negatively predicted general harassment. See Table 34 for the rest of the main effects.

Table 34

Main Effects of Hours Played per Week Online on General Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				10.471
Constant	1.693	0.173	9.802	p<.001	1.353	2.033		
HPW Online	-0.001	0.010	-0.144	.886	-0.020	0.017		
Exposure	0.011	0.004	2.432	.016	0.002	0.019		
Hostile Sexism	0.217	0.047	4.606	p<.001	0.124	0.310		
Chatting Level	0.168	0.053	3.174	.002	0.064	0.273		
HPW Online*Exposure	-0.002	0.001	-2.707	.007	-0.004	-0.001	0.025	7.328
HPW Online *Hostile	0.010	0.009	1.092	.276	-0.008	0.027	0.004	1.192
Exposure*Hostile				.011			0.032	4.562

Note: HPW = hours played per week.

When participants were exposed to low levels of video game violence, increased hours of online play were positively associated with reported general harassment. Low levels of exposure moderated hours of online play on general harassment, only at high levels of hostile sexism. When participants reported average exposure to video game violence, the number of hours played online did not predict their level of general harassment, and this pattern held at high, average, and low levels of reported hostile sexism. However, when participants were exposed to high levels of video game violence, increased hours of online play were negatively associated with reported general harassment. High levels of exposure moderated hours of online play on general harassment only at low to average levels of hostile sexism. See Table 35 for the rest of the conditional effects. See Figure 14 for a visual representation.

Table 35

Conditional Effects of Hours Played per Week Online at Values of Exposure to Video Game Violence and Hostile Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure		Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
	-12.934	-1.154	0.014	0.018	0.767	.444	-0.022	0.050
	-12.934	0.000	0.025	0.014	1.829	.069	-0.002	0.052
	-12.934	1.154	0.036	0.016	2.271	.024	0.005	0.068
	0.000	-1.154	-0.013	0.015	-0.853	.395	-0.042	0.016
	0.000	0.000	-0.001	0.010	-0.144	.886	-0.020	0.017
	0.000	1.154	0.010	0.013	0.738	.461	-0.016	0.036
	12.934	-1.154	-0.039	0.017	-2.283	.023	-0.073	-0.005
	12.934	0.000	-0.028	0.014	-2.045	.042	-0.055	-0.001
	12.934	1.154	-0.017	0.017	-0.984	.326	-0.050	0.017

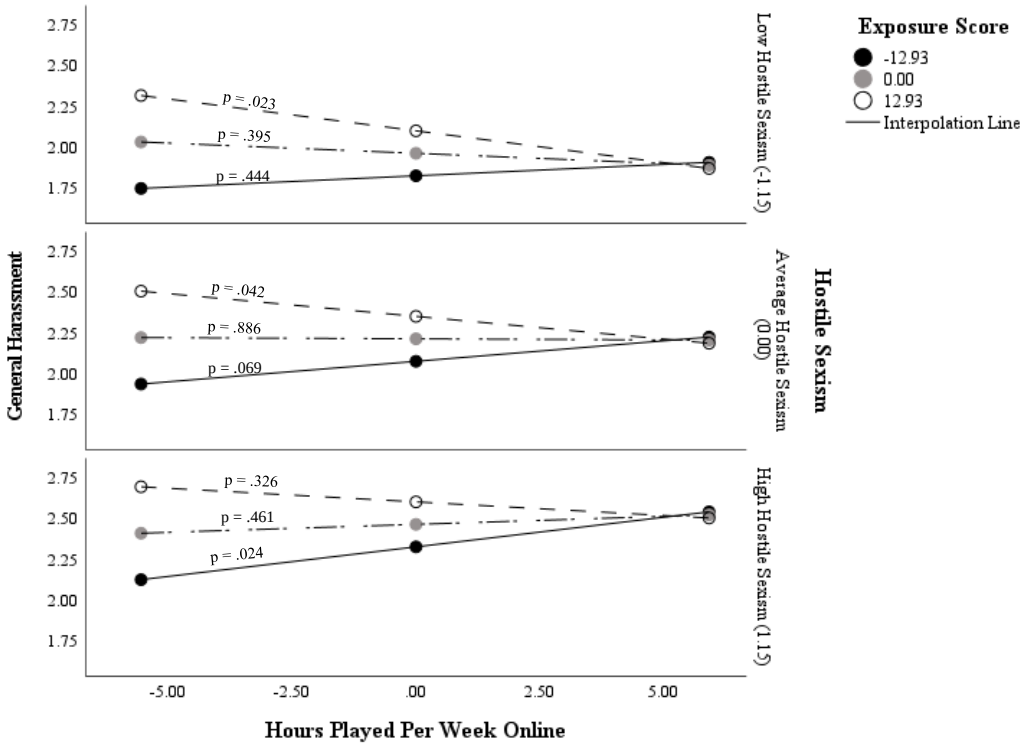

Figure 14. Visual representation of the effect of hours played online on general harassment with exposure and hostile sexism as moderators and chatting level as a covariate.

Effect of hours played online on general harassment with exposure and benevolent sexism as moderators. The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,229) = 7.358$, $p < .001$, $R^2 = .1616$.

Exposure $b = .009$, $t(229) = 2.033$, $p = .043$, benevolent sexism, $b = .112$, $t(229) = 2.018$, $p = .045$, and chatting level $b = .192$, $t(229) = 3.468$, $p = .001$ positively and significantly predicted general harassment. The interaction between hours played online

and exposure b = -.002, $t(229)$ = -2.919, p = .004 significantly and negatively predicted general harassment. See Table 36 for the rest of the main effects.

Table 36

Main Effects of Hours Played per Week Online on General Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				7.358
Constant	1.632	0.179	9.119	p<.001	1.280	1.985		
HPW Online	0.003	0.010	0.269	0.788	-0.017	.022		
Exposure	0.009	0.005	2.033	0.043	0.0003	.018		
Benevolent Sexism	0.112	0.055	2.018	0.045	0.003	.220		
Chatting Level	0.192	0.055	3.468	0.001	0.083	.301		
HPW Online*Exposure	-0.002	0.001	-2.919	0.004	-0.004	-.001	0.031	8.523
HPW Online *Benevolent	0.007	0.008	0.785	0.433	-0.010	.023	0.002	0.617
Exposure*Benevolent				0.010			0.034	4.657

Note: HPW = hours played per week.

When participants were exposed to low levels of video game violence, increased hours of online play were positively associated with reported general harassment. Low levels of exposure moderated hours of online play on general harassment, only at average and high levels of benevolent sexism. When participants reported average exposure to video game violence, the number of hours played online did not predict their level of general harassment, and this pattern held at high, average, and low levels of reported benevolent sexism. However, when participants were exposed to high levels of video game violence, increased hours of online play were negatively associated with reported general harassment. High levels of exposure moderated hours of online play on general harassment only at low levels of benevolent sexism. See Table 37 for the rest of the conditional effects. See Figure 15 for a visual representation.

Table 37

Conditional Effects of Hours Played per Week Online at Values of Exposure to Video Game Violence and Benevolent Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Benevolent Sexism	Effect	SE	t	p	LLCI	ULCI
-12.903	-1.040	0.025	0.016	1.531	.127	-0.007	0.057
-12.903	0.000	0.032	0.014	2.255	.025	0.004	0.060
-12.903	1.040	0.039	0.017	2.290	.023	0.005	0.072
0.000	-1.040	-0.004	0.013	-0.330	.742	-0.029	0.021
0.000	0.000	0.003	0.010	0.269	.788	-0.017	0.022
0.000	1.040	0.010	0.014	0.689	.492	-0.018	0.037
12.903	-1.040	-0.033	0.016	-2.090	.038	-0.065	-0.002
12.903	0.000	-0.027	0.014	-1.871	.063	-0.054	0.001
12.903	1.040	-0.020	0.017	-1.134	.258	-0.054	0.015

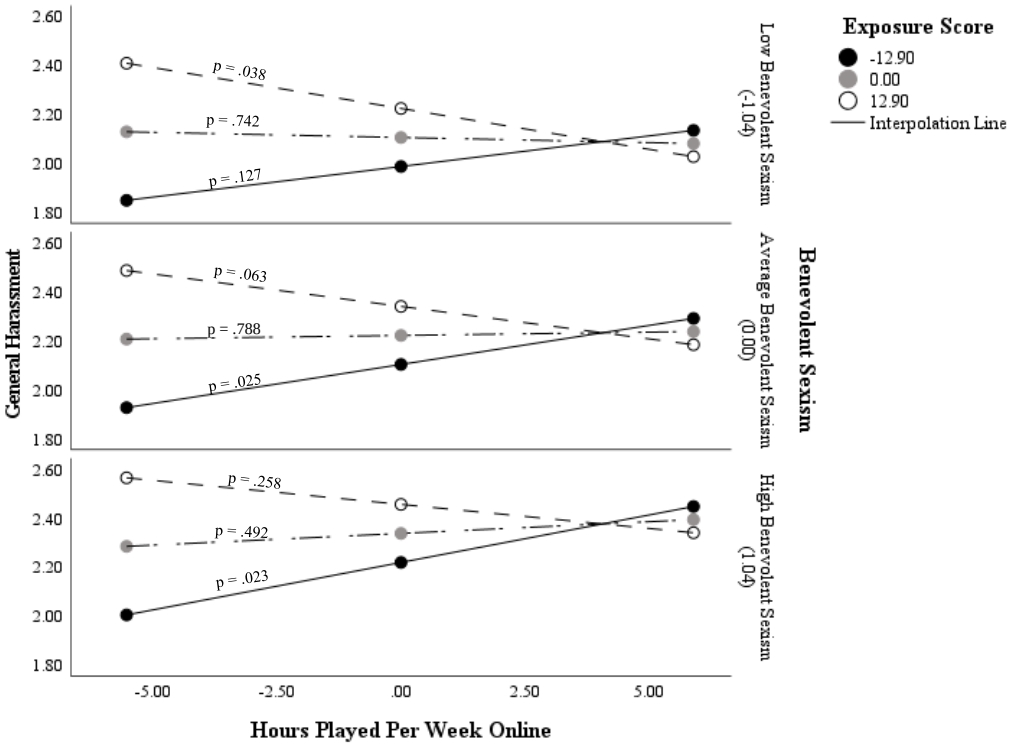

Figure 15. Visual representation of the effect of hours played online on general harassment with exposure and benevolent sexism as moderators and chatting level as a covariate.

APPENDIX J

HOURS PLAYED OFFLINE AS A PREDICTOR

Sexual Harassment

Effect of hours played offline on sexual harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, was significant, $F(6,230) = 6.890$, $p < .001$, $R^2 = .1524$.

Only exposure $b = .011$, $t(230) = 3.234$, $p = .001$ and hostile sexism, $b = .127$, $t(230) = 3.588$, $p < .001$ significantly and positively predicted sexual harassment. See Table 38 for the rest of the main effects. There were no significant conditional effects. See Figure 16 for a visual representation.

Table 38

Main Effects of Hours Played per Week Offline on Sexual Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				6.890
Constant	1.214	0.127	9.596	p<.001	0.964	1.463		
HPW Offline	0.011	0.009	1.278	.202	-0.006	0.029		
Exposure	0.011	0.003	3.234	.001	0.004	0.018		
Hostile Sexism	0.127	0.035	3.588	p<.001	0.057	0.196		
Chatting Level	0.067	0.038	1.749	.082	-0.009	0.143		
HPW Offline*Exposure	-0.001	0.001	-1.394	.165	-0.002	0.0004	0.007	1.943
HPW Offline *Hostile	0.009	0.007	1.358	.176	-0.004	0.023	0.007	1.843
Exposure*Hostile				.128			0.015	2.074

Note: HPW = hours played per week.

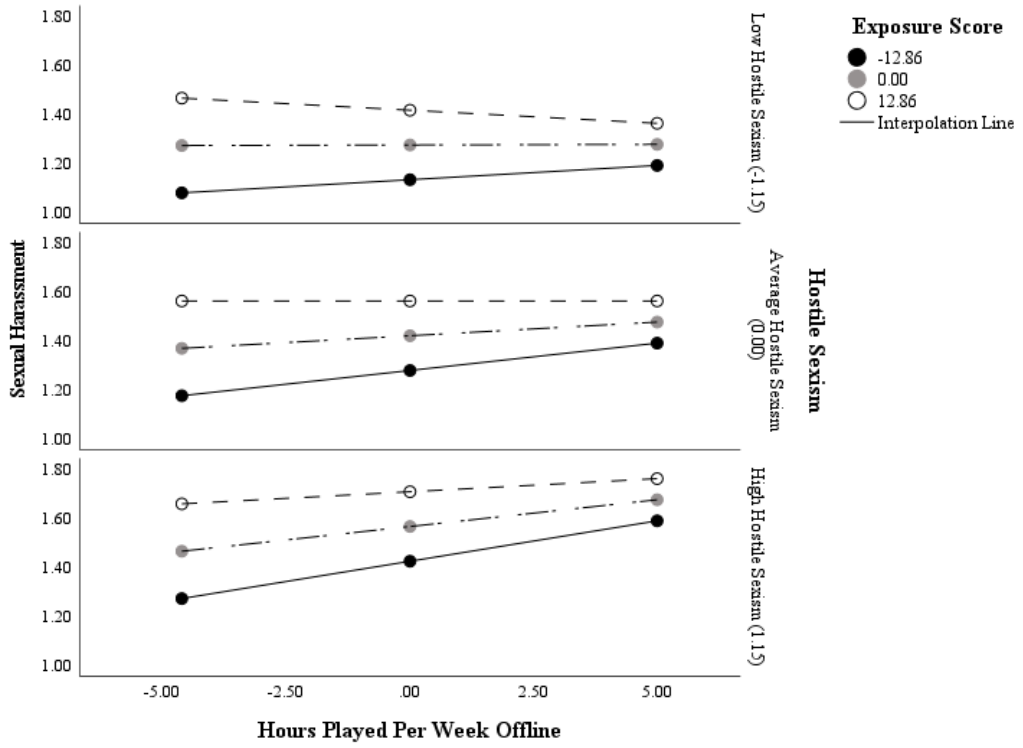

Figure 16. Visual representation of hours played offline on sexual harassment with exposure and hostile sexism as moderators and chatting level as a covariate.

<u>Effect of hours played offline on sexual harassment with exposure and benevolent sexism as moderators.</u> The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,231) = 6.890$, $p = .0001$, $R^2 = .1118$.

Only Exposure $b = .011$, $t(231) = 3.176$, $p = .002$ significantly and positively predicted sexual harassment. See Table 39 for the rest of the main effects. No conditional effects were significant. See Figure 17 for a visual representation.

Table 39

Main Effects of Hours Played per Week Offline on Sexual Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				4.846
Constant	1.174	0.130	9.052	p<.001	0.918	1.429		
HPW Offline	0.005	0.009	0.632	.528	-0.011	0.022		
Exposure	0.011	0.004	3.176	.002	0.004	0.018		
Benevolent Sexism	0.076	0.040	1.904	.058	-0.003	0.155		
Chatting Level	0.077	0.040	1.958	.051	-0.001	0.155		
HPW Offline*Exposure	-0.001	0.001	-1.320	.188	-0.002	0.0004	0.007	1.741
HPW Offline*Benevolent	0.001	0.008	0.162	.871	-0.014	0.016	0.0001	0.026
Exposure*Benevolent				.414			0.007	0.885

Note: HPW = hours played per week.

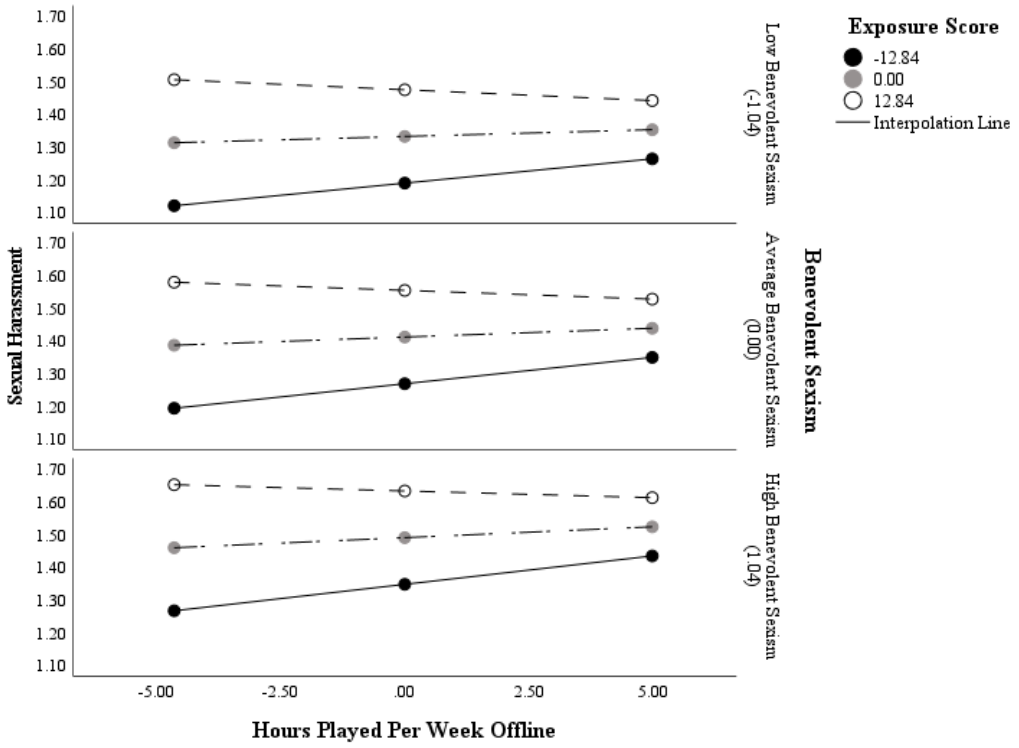

Figure 17. Visual representation of the effect of hours played offline on sexual harassment with exposure and benevolent sexism as moderators and chatting level as a covariate.

General Harassment

Effect of hours played offline on general harassment with exposure and hostile sexism as moderators. The overall model with hours played, exposure, and hostile sexism as predictors was significant, $F(6,227) = 10.147$, $p < .001$, $R^2 = .2115$.

Exposure $b = .012$, $t(227) = 2.653$, $p = .009$, hostile sexism, $b = .225$, $t(227) = 4.755$, $p < .001$, and chatting level $b = .165$, $t(227) = 3.205$, $p = .002$ significantly and positively predicted general harassment. The interaction between hours played offline

and exposure b = -.002, $t(227)$ = -2.629, p = .009 significantly and negatively predicted general harassment. See Table 40 for the rest of the main effects.

Table 40

Main Effects of Hours Played per Week Offline on General Harassment with Exposure and Hostile Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				10.147
Constant	1.719	0.170	10.125	p<.001	1.384	2.053		
HPW Offline	0.008	0.012	0.643	.521	-0.016	0.031		
Exposure	0.012	0.005	2.653	.009	0.003	0.021		
Hostile Sexism	0.225	0.047	4.755	p<.001	0.132	0.319		
Chatting Level	0.165	0.052	3.205	.002	0.064	0.267		
HPW Offline*Exposure	-0.002	0.001	-2.629	.009	-0.004	-0.001	0.024	6.911
HPW Offline *Hostile	0.003	0.009	0.373	.709	-0.015	0.022	0.001	0.139
Exposure*Hostile				.028			0.025	3.636

Note: HPW = hours played per week.

When participants were exposed to low levels of video game violence, increased hours of offline play were positively associated with reported general harassment. Low levels of exposure moderated hours of offline play on general harassment only at average levels of hostile sexism. When participants reported average to high exposure to video game violence, the number of hours played offline did not predict their level of general harassment, and this pattern held at high, average, and low levels of reported hostile sexism. See Table 41 for the rest of the conditional effects. See Figure 18 for a visual representation.

Table 41

Conditional Effects of Hours Played per Week Offline at Values of Exposure to Video Game Violence and Hostile Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Hostile Sexism	Effect	SE	t	p	LLCI	ULCI
-12.934	-1.154	0.032	0.017	1.841	.067	-0.002	0.066
-12.934	0.000	0.036	0.016	2.272	.024	0.005	0.067
-12.934	1.154	0.040	0.021	1.938	.054	-0.001	0.081
0.000	-1.154	0.004	0.013	0.276	.783	-0.022	0.029
0.000	0.000	0.008	0.012	0.643	.521	-0.016	0.031
0.000	1.154	0.012	0.018	0.633	.528	-0.024	0.048
12.934	-1.154	-0.025	0.017	-1.506	.133	-0.057	0.008
12.934	0.000	-0.021	0.016	-1.295	.197	-0.053	0.011
12.934	1.154	-0.017	0.022	-0.777	.438	-0.060	0.026

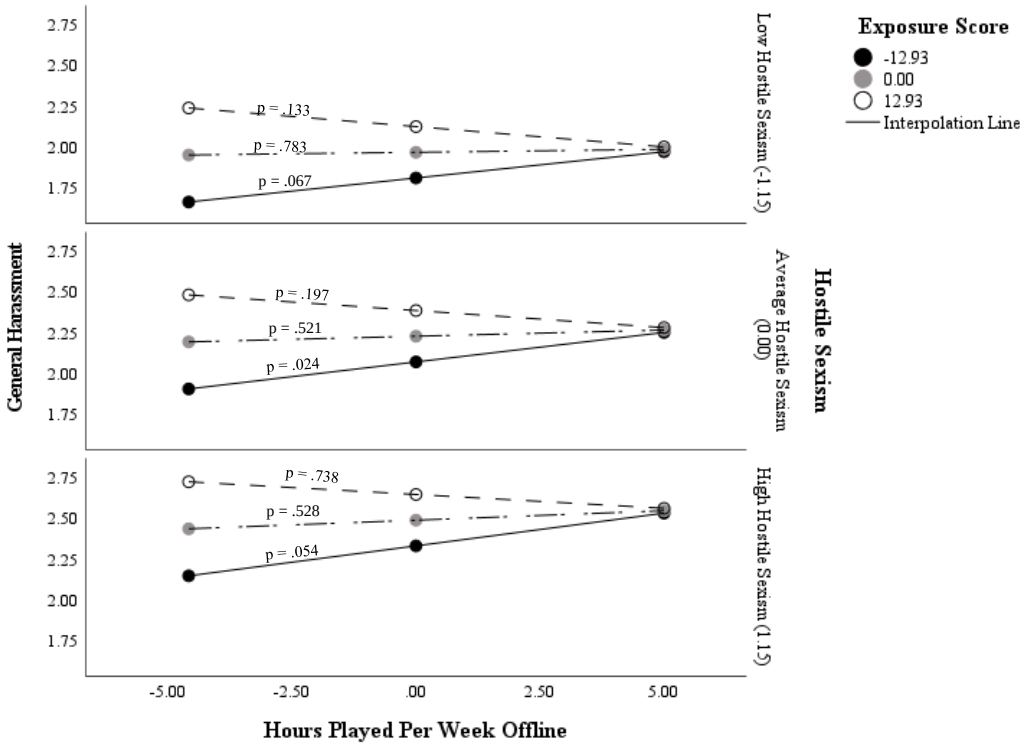

Figure 18. Visual representation of the effect of hours played offline on general harassment with exposure and hostile sexism as moderators and chatting level as a covariate.

<u>Effect of hours played offline on general harassment with exposure and benevolent sexism as moderators.</u> The overall model with hours played, exposure, and benevolent sexism as predictors was significant, $F(6,229) = 6.668$, $p < .001$, $R^2 = .1487$.

Exposure $b = .012$, $t(229) = 2.431$, $p = .016$, benevolent sexism, $b = .110$, $t(229) = 2.013$, $p = 045$, and chatting level $b = .191$, $t(229) = 3.554$, $p = .001$ significantly and positively predicted general harassment. The interaction between hours played offline

and exposure b = -.002, $t(229)$ = -2.372, p = .019 significantly and negatively predicted general harassment. See Table 42 for the rest of the main effects.

Table 42

Main Effects of Hours Played per Week Offline on General Harassment with Exposure and Benevolent Sexism as Moderators and Chatting Level as a Covariate

	b	SE	t	p	LLCI	ULCI	ΔR^2	F
Model Significance				p<.001				6.668
Constant	1.640	0.176	9.312	p<.001	1.293	1.987		
HPW Offline	0.003	0.012	0.228	.820	-0.020	0.026		
Exposure	0.012	0.005	2.431	.016	0.002	0.021		
Benevolent Sexism	0.110	0.054	2.013	.045	0.002	0.217		
Chatting Level	0.191	0.054	3.554	.001	0.085	0.297		
HPW Offline*Exposure	-0.002	0.001	-2.372	.019	-0.004	-0.0003	0.021	5.626
HPW Offline*Benevolent	0.003	0.010	0.284	.777	-0.017	0.023	0.0003	0.081
Exposure*Benevolent				.060			0.021	2.856

Note: HPW = hours played per week.

When participants were exposed to low levels of video game violence, increased hours of offline play were positively associated with reported general harassment. Low levels of exposure moderated hours of offline play on general harassment only at average levels of benevolent sexism (approached significance). When participants reported average to high exposure to video game violence, the number of hours played offline did not predict their level of general harassment, and this pattern held at high, average, and low levels of reported benevolent sexism. See Table 43 for the rest of the conditional effects. See Figure 19 for a visual representation.

Table 43

Conditional Effects of Hours Played per Week Offline at Values of Exposure to Video Game Violence and Benevolent Sexism on General Harassment for Standardized Scores at -1 SD, Mean, and +1 SD

Exposure	Benevolent Sexism	Effect	SE	t	p	LLCI	ULCI
-12.903	-1.040	0.026	0.018	1.425	.156	-0.010	0.062
-12.903	0.000	0.029	0.016	1.801	.073	-0.003	0.061
-12.903	1.040	0.032	0.020	1.577	.116	-0.008	0.072
0.000	-1.040	-0.0004	0.014	-0.026	.980	-0.029	0.028
0.000	0.000	0.003	0.012	0.228	.820	-0.020	0.026
0.000	1.040	0.006	0.017	0.334	.739	-0.028	0.039
12.903	-1.040	-0.027	0.018	-1.477	.141	-0.063	0.009
12.903	0.000	-0.024	0.016	-1.481	.140	-0.056	0.008
12.903	1.040	-0.021	0.020	-1.021	.308	-0.061	0.019

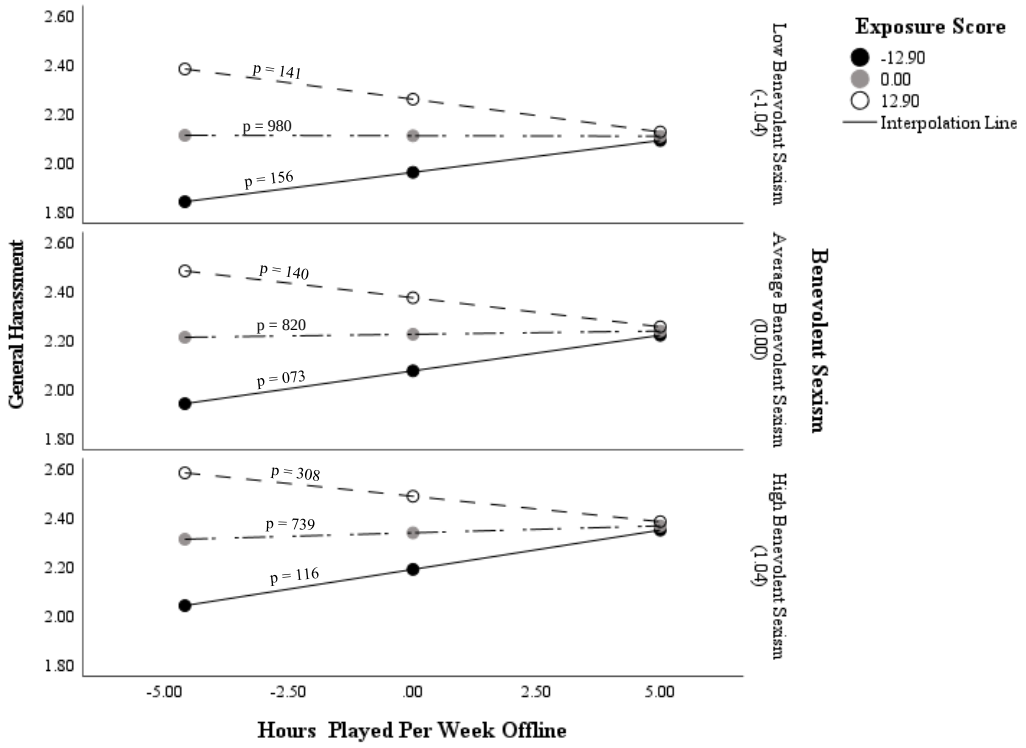

Figure 19. Visual representation of the effect of hours played offline on general harassment with exposure and benevolent sexism as moderators and chatting level as a covariate.